OLD!
ULTIMATE 80s RETRO GAMING COLLECTION
ESSENTIAL GUIDE TO GAMING'S GREATEST DECADE
OVER 100 OF THE BEST GAMES EVER MADE
FROM THE MAKERS OF
retro GAMER
PACKED WITH CLASSIC GAMES & ICONIC CHARACTERS
Digital Edition
FUTURE
FOURTH EDITION

WELCOME TO

ULTIMATE 80's RETRO GAMING COLLECTION

While gaming really burst onto the scene in the Seventies with the likes of *Space Invaders* and *Galaxian* hitting arcades, it was the Eighties that truly revolutionised it. Not only did the arcade craze continue to grow, but over the decade home computers and consoles became more commonplace, while some of the best-loved videogame franchises and characters were born. Among the many gaming highlights of the decade were *Pac-Man*, *Tetris*, *Frogger*, *OutRun*, *Zelda* and the *Super Mario* franchise to name just a few. Inside you'll find fascinating in-depth features on these games, while we'll also run down the greatest games from the best home consoles and computers of the Eighties – from the NES and C64 to Sega's Master System and the Amiga 500. So join us as we take a stroll down memory lane and discover why Eighties gaming ruled. Enjoy!

FUTURE

Ultimate 80s Retro Gaming Collection

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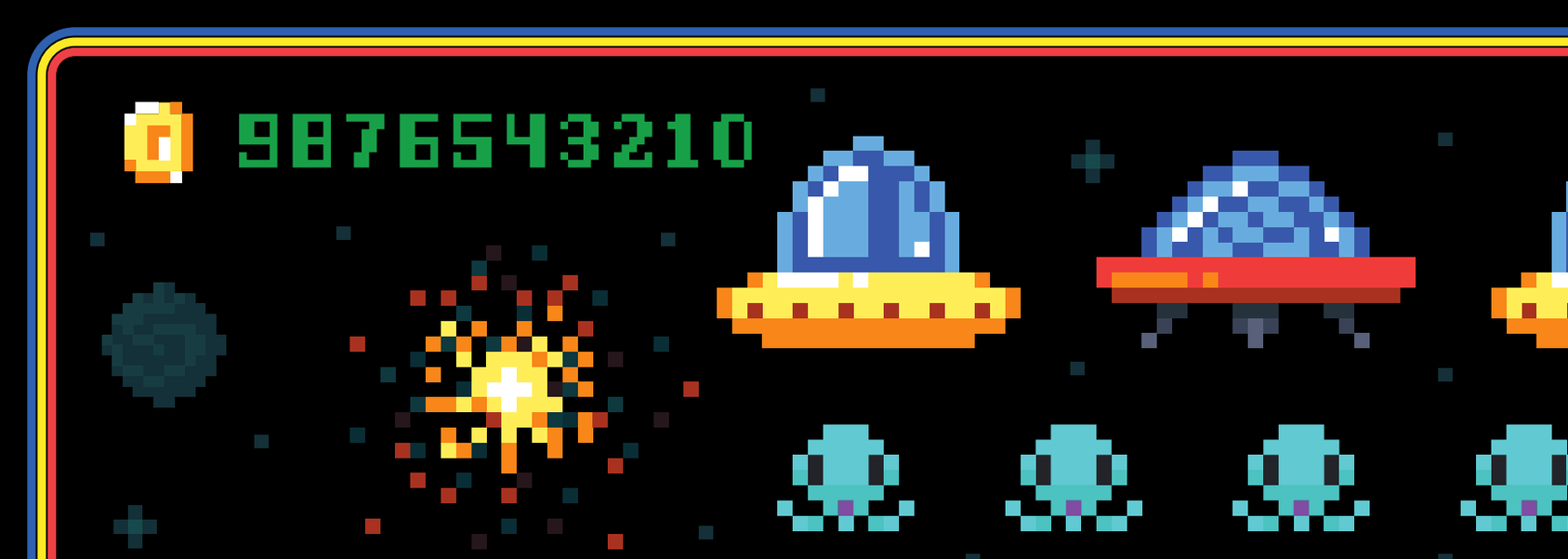


CONTENTS

8 WHY 80s GAMING RULED

16 THE STORY OF PAC-MAN ON ATARI 2600

22 THE GREATEST NES GAMES

32 THE MAKING OF DOUBLE DRAGON

38 30 YEARS OF ROBOTRON

46 THE HISTORY OF TETRIS

56 TOP 25 COMMODORE 64 GAMES OF ALL TIME

66 10 GREATEST SUPER MARIO MOMENTS

74 THE MAKING OF OUTRUN

80 MAKING A SPLASH: FROGGER

88 TOP 25 MASTER SYSTEM GAMES

96 THE MAKING OF MISSILE COMMAND

100 A PRINCE AMONG GAMES

108 THE MAKING OF R-TYPE

112 TOP 25 SPECTRUM GAMES

122 THE ULTIMATE GUIDE TO THE LEGEND OF ZELDA

128 THE HISTORY OF ELITE

136 THE MAKING OF SPY HUNTER

140 THE MAKING OF MANIC MINER

146 ULTIMATE GUIDE: CHASE HQ

154 TOP 25 AMIGA 500 GAMES

16
39
NEXT
LINE 0
LEVEL 0
STATUS
46
LV 01
TIME
WHITE
56
66
2000
START
74
122
I BET YOU'D LIKE
TO HAVE MORE BOMBS.
-100
140
Eugene's Lair
AIR
High Score 026267
Score 00724

WHY
80s
START

GAMING RULED

THE EIGHTIES WAS AN EXHILARATING TIME TO BE PLAYING VIDEOGAMES, WITH NEW COMPANIES AND GENRES FORMING OVERNIGHT. HERE'S OUR GUIDE TO ONE OF GAMING'S MOST IMPORTANT DECADES

If you're of a certain age then the Eighties was the most exciting time to be into videogames. New home computers and games consoles appeared to be coming out every other month and, as the medium itself was still in its infancy, we were being treated to all sorts of fascinating new game ideas and concepts.

Numerous genres, from scrolling fighters to graphic adventures and platformers, were born and came of age during this decade, while earlier genres like shoot-'em-ups and beat-'em-ups continued their evolution. It was a time of creativity and experimentation, a time when many developers and publishers were still willing to throw caution to the wind and eager to try innovative new things. For several years, videogames unfortunately buckled under the weight of expectation and poor management in America; meanwhile in the UK home coders started to create games in their bedrooms that would go on to become recognisable franchises the world over. The Japanese would continue the domination of arcades that first kicked off with the likes of *Space Invaders* and would start to make massive in-roads into the lucrative home market with smash-hit systems like Nintendo's NES and Sega's Master System. It was a fascinating time to be alive and it left an impact on everybody during that period who either made games or played them. But before we take a look at the many memorable and successful systems and games that appeared during the Eighties, it probably makes sense to briefly delve into the decade that came before it.

THE END OF AN ERA

Don't worry, we won't be stopping off in the Seventies for long. But it's worth noting that this is largely the decade where gaming really started to change and evolve and it's mainly down to companies such as Atari Inc and Apple. Both publishers were making great progress during the late Seventies with their home computers, and Atari had the additional revenue of a string of fantastic arcade games and game systems like the Atari 2600.

In fact the Atari 2600 (or Video Computer System as it was originally known) is of particular interest because while it first came to power in 1977, it continued to dominate in the west for most of the early Eighties thanks to killer apps such as *Star Wars: The Empire Strikes Back*, *Pitfall!*, *Pac-Man* and an official licence of *Space Invaders*. While Atari had the console market to itself for most of the Seventies, things were a lot tougher in the home computer market. Although Atari's range of 8-bit systems was well received by those that were fortunate enough to own them, there was pressure from the aforementioned Apple, as well as companies like Commodore, which launched its own home computers like 1977's Commodore PET. Arcade games had also risen in popularity in the late Seventies, thanks to innovative offerings from companies like Atari, as well as Taito Corporation, which was having games published by the likes of Midway Games. But really the Seventies was still a very embryonic stage for videogames and it's in the Eighties that the medium we love really began to come of age.

1980: RISE OF THE HOME COMPUTERS

1980 saw a few notable pieces of hardware arrive in the form of the Intellivision, Mattel's answer to Atari's 2600. After a soft launch in certain regions in the US in 1979, it launched worldwide in the country, eventually arriving in Europe in 1981. It's perhaps best remembered for its dial control pad and its range of inventive games that included the likes of *Microsurgeon* and *Utopia*, as well as the first officially licensed *Dungeons & Dragons* game. Things were also hotting up on the home computer front: Tandy entered the fray with its TRS-80 range (which would receive several updates throughout the decade), while Acorn Computers and Sinclair delivered their own systems in the form of the Atom and the ZX80 respectively. The ZX80 was particularly notable as it was available in kit form for £79.95 or could be purchased complete for a pricier £99.95. It proved to be a huge success for Sinclair, with many customers having to wait months for their machine. Notable arcade games released during 1980 included Namco's *Pac-Man* and *Rally-X* as well as *Missile Command* and *Battlezone*, which was notable for its impressive vector-based graphics. *Rogue* was released for Unix-based mainframes and kicked off a genre 'Roguelike', which is still popular today, while December saw the release of text adventure *Zork*, a game that would go on to have numerous sequels.

Systems like the Atari 2600 were still doing well in the early Eighties thanks to hits like *River Raid*.

Sega's cutting-edge hardware like its 'super-scaler' technology allowed the company to dominate arcades during the Eighties.

1981: ENTER DONKEY KONG

1981 saw the onslaught of companies releasing home computers continue, with the ZX81, TI99, BBC Micro, NEC PC-8801, Commodore VIC-20 and a personal computer from IBM all seeing release. The BBC Micro rose to prominence thanks to its use in schools throughout the UK for most of the Eighties. Meanwhile the VIC-20's cheap price point helped it gain a foothold against the pricier systems of the time and it became the first home system to sell over a million units. The ZX81 from Sinclair is also worth mentioning as it continued to build on the company's success with the ZX80, which went on to sell over 1.5 million units before it was discontinued. Gaming magazines also began to spring up in 1981, with *Electronic Games* catering to the US audience, while *Computer And Video Games* (*C&VG*) looked after the UK market. Interesting games began appearing on the home systems this year, with both *Ultima* and *Wizardry* revolutionising the concept of the RPG. Both games became so successful that they spawned several sequels and *Ultima* helped turn creator Richard Garriott into a household name (providing your house had a home computer of course). Arcade games continued to largely dominate in 1981 thanks to their additional and bespoke hardware – you could hop across busy roads in *Frogger*, shoot your way through distinctive stages in *Gorf* and blast bad guys in *Galaga* and *Scramble*. However, it was Nintendo's *Donkey Kong* that caused the biggest stir of 1981: it not only helped turn Mario (then known as Jumpman) into gaming's biggest star but also introduced the world to the lovable Donkey Kong, who would also go on to have a very successful videogame career.

1982: HOME COMPUTER DOMINANCE CONTINUES

1982 continued to see much in-fighting as various companies all vied to have the best-selling home systems and computers. Welsh company Dragon Data released the Dragon 32. A modified version of the ZX81 called the TS1000 was released in the US, while NEC released the PC-98 in Japan to compete against Sharp's X1. As notable as these systems were, they failed to compete with the Commodore 64 and Sinclair ZX Spectrum, two juggernauts which would both define the home markets going forward and serve as springboards for many popular developers and publishers. Sinclair's machine would go on to sell a staggering 5 million units, while Commodore's machine went on to sell between 10 and 17 million units, earning a place in the *Guinness Book Of Records*. Things were also hotting up in the console wars, with Atari renaming its VCS to the punchier sounding 2600 and also launching the Atari 5200. Forgettable entries at this time include Emerson's Arcadia 2001 and Entex's Adventure Vision. We also had the cool Vectrex system, which looked amazing thanks to its vector graphics and looked like a mini arcade machine. Far more successful was Coleco's ColecoVision, which boasted impressive graphics for the time and had some fantastic home conversions, including the massively popular *Donkey Kong*. Meanwhile, *Pac-Man* was going down a storm on the Atari 2600 to the tune of 7 million units, as was Activision's *Pitfall!*, which sold an impressive 4 million units. Less impressive was the system's home conversion of *E.T. The Extra Terrestrial*, which was written in just five weeks and is often seen as being one of the main reasons for America's videogame crash. Other notable releases of 1982 included Sega's hit shooter *Zaxxon*, which introduced gamers to isometric graphics; *Ms. Pac-Man*, a sequel that added a female protagonist and a variety of different mazes; and *Q*bert*, a fun puzzle game from pinball wizards Gottlieb that featured a hero who swore whenever he got hit. More arcade classics from this period included the sensational arcade racer *Pole Position*, *Xevious* – which was essentially an overhead version of *Scramble* – *Dig Dug* and *Mr Do!*.

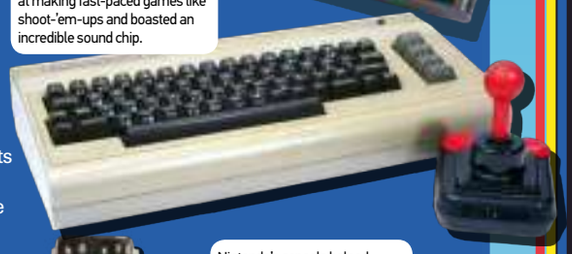
DEFINING SYSTEMS

Big companies like Rare and Codemasters started off their careers by making games for Sinclair's 8-bit computer.

ZX SPECTRUM

YEAR RELEASED: 1982

Created by the late Rick Dickinson, the original Speccy (as it was affectionately known) included a rubber keyboard and the option of 16 or 48KB of RAM. It became a huge success for Sinclair and many games companies flocked to the machine, making it a haven for gamers in the process.



Commodore's machine excelled at making fast-paced games like shoot-'em-ups and boasted an incredible sound chip.

COMMODORE 64

YEAR RELEASED: 1982

Commodore's successor to the VIC-20 was released the same year as the Spectrum and they became huge rivals. Commodore's 8-bit system eventually proved victorious thanks to its superior SID sound chip and the fact that it had a far stronger presence in the US. It became the dominant system for much of the Eighties.

Nintendo's console helped America find its footing again after the crash and sold over 61 million units.

NES

YEAR RELEASED: 1983

Originally released in 1983 as the Famicom, the NES became phenomenally successful once it was rebadged and released in 1985. Many games publishers made their fortunes on the system and it has spawned countless killer franchises like *Super Mario Bros.*, *Fire Emblem*, *Metroid* and *The Legend Of Zelda* that are still going strong today.

Commodore's 16-bit machine was extremely well supported in Europe and boasted incredible looking games like *Shadow Of The Beast*.

AMIGA 500

YEAR RELEASED: 1987

While it proved popular throughout the Nineties, Commodore's 16-bit machine made enough impact in the late-Eighties to earn its inclusion here. Although not as successful as the Commodore 64, it perfectly highlighted just how powerful home computers were becoming and typically had amazing looking games that outshone the 8-bit versions.

Although Atari's 16-bit computer had a head start on the Amiga, it ultimately lost out to Commodore's machine.

ATARI ST

YEAR RELEASED: 1985

Atari's 16-bit machine was the successor to the company's 8-bit series that had been popular throughout the late-Seventies and early-Eighties. Born from a rivalry between two competing companies, it was a relatively low-budget entry that spawned numerous enhanced updates, including the STF and STFM. There was often fierce rivalry between Amiga and ST owners.

The BBC Micro is well remembered by many school children of the Eighties as it was used in schools throughout the UK.

1983: DOWN THE TOILET

1983 was not a good year for American gamers as it's largely seen as the start of the videogame crash, which took place there until 1985. Everything from market saturation to a lack of interest in home systems were seen as contributing factors and it affected a large number of companies, including Atari. Arcades suffered and long-term effects included the shift of home console domination from the west to Japan and the numerous measures that were taken to control third-party software development. In 1982 the industry had been worth $3.2 billion. By 1985 it had dropped to $100 million and some expert analysts even wondered if the US market could be sustained. Thankfully it could. Conversely the crash wasn't felt at all overseas and things were going swimmingly. Microsoft Japan launched the MSX, which featured standardised computer architecture. Meanwhile, a cut-down version of the BBC Micro called the Acorn Electron was released and Sega brought out the SC-3000, a personal computer variant of its SG-1000. Nintendo also released a console in Japan called the Famicom (short for Family Computer) but it had to be recalled and was reissued with a brand-new motherboard. It was later released in the west in 1985 with a brand-new name. Can you guess what it was? Despite the impact of the crash, there were still great games getting released in the arcades, with the likes of *Spy Hunter*, *Crystal Castles*, *Punch-Out!!*, *Mario Bros.* and the excellent *Star Wars* all vying for your hard-earned cash. And let's not forget *Dragon's Lair*, a stunning LaserDisc game with award-winning animated visuals by legendary artist Don Bluth.

Dragon's Lair was a huge hit in the arcades and was created by the famous animator Don Bluth.

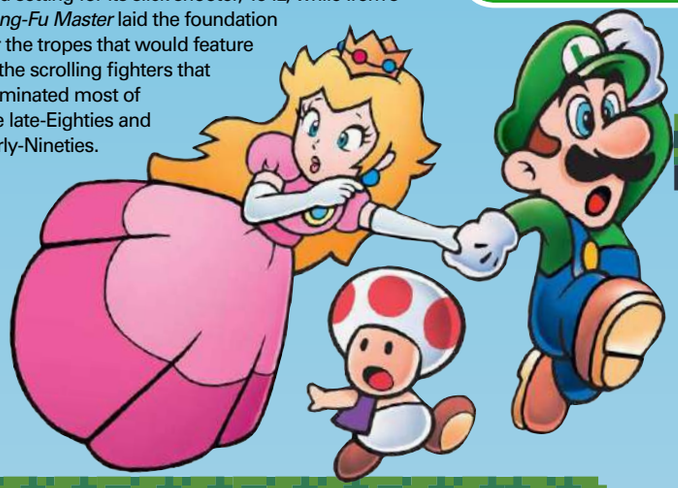
1984: THE 8-BIT SYSTEMS COME OF AGE

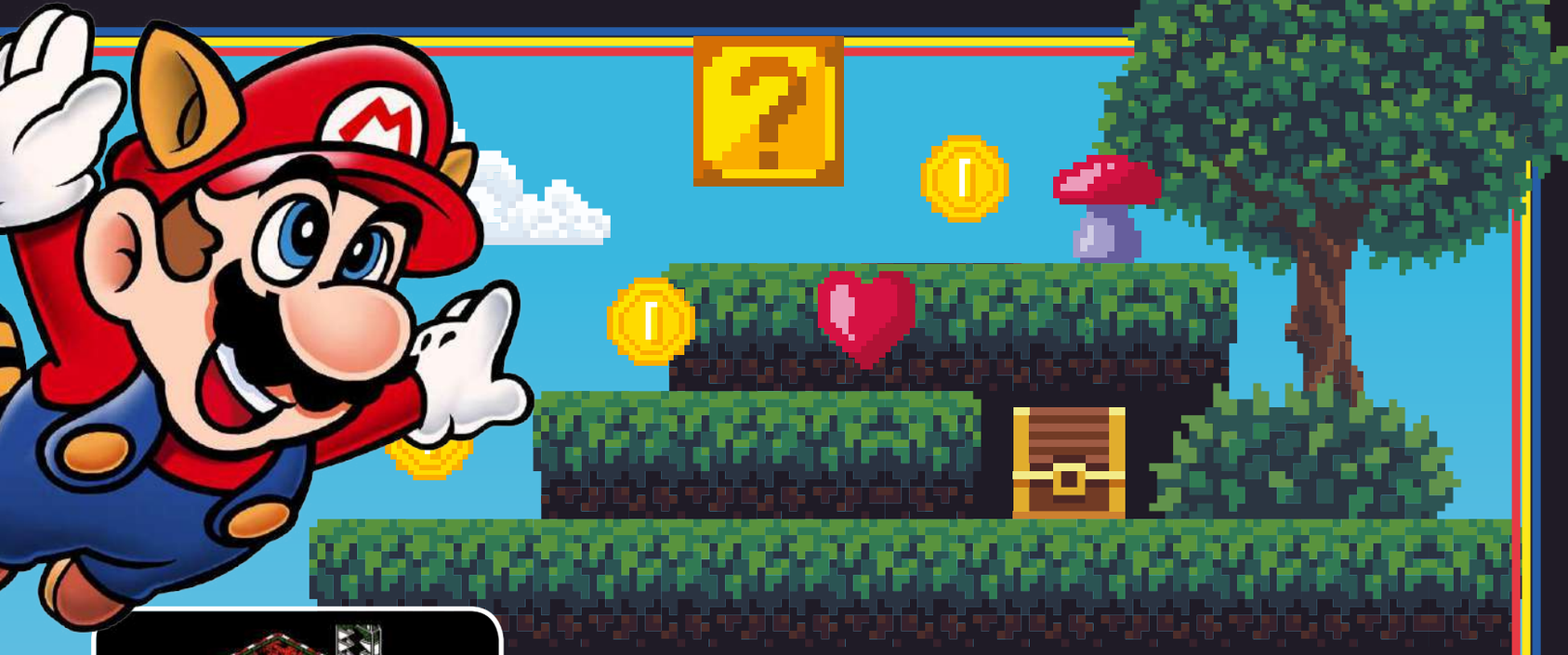
The US crash continued into 1984 but UK gamers were blissfully unaware. They were too busy playing Alexey Pajitnov's phenomenally successful *Tetris* and whizzing around worlds in the incredible *Elite*. Other hits included Ultimate Play The Game's *Knight Lore*, Mike Singleton's stunning *The Lords Of Midnight* and Matthew Smith's excellent *Jet Set Willy*, his long-awaited sequel to *Manic Miner*. *Boulder Dash*, *Karateka*, *King's Quest* and *Impossible Mission* were just a few of the games that home computer owners were playing, while console owners were enjoying the likes of *Pitfall II: Lost Caverns*, *Choplifter!*, *H.E.R.O.* and *Keystone Kapers*. 1984 was also the year that Amstrad entered the home computer market, with its all-in-one answer known as the Amstrad CPC 464. Unlike many home systems of the time, it shipped with a built-in cassette deck and included a colour or green screen monitor, which was quite important as few homes at the time had the luxury of owning multiple TVs. Arcades continued to innovate during 1984 and sequels continued to prove popular with gamers. *Gaplus* was a fun sequel to *Galaga*, *Pac-Land* continued to find success with fans of *Pac-Man*, while *Karate Champ* from Technos began to lay the foundations for one-on-one fighters (something that would be built on by Konami with *Yie Ar Kung-Fu* in the following year). Capcom used World War II as a setting for its slick shooter, *1942*, while Irem's *Kung-Fu Master* laid the foundation for the tropes that would feature in the scrolling fighters that dominated most of the late-Eighties and early-Nineties.

1985: NINTENDO STARTS TO DOMINATE

1985 saw Nintendo begin its successful penetration of the western videogame market with its rebranded Famicom. Called the NES (Nintendo Entertainment System), it was cleverly marketed to appeal to the toy market (packs included things like a lightgun and a cute toy robot called R.O.B.) and it eventually went on to sell over 61 million units. Meanwhile, Sega was preparing to launch the Sega Mark III in Japan, which would become the Master System when it reached the west. Many companies including Capcom, Konami and Rare had great success thanks to sales of their games on the NES and even Nintendo's strict licensing deals wouldn't put companies off releasing games for it. Home computers continued to grow in power and both Atari and Commodore released 16-bit machines during this year, most notably the Atari ST and the Amiga 1000. There was also a notable power shift in arcades with games such as *Hang-On* and *Space Harrier* delivering jaw-dropping graphics and hydraulic cabinets that simply couldn't be replicated in the home to the same standard. *Gauntlet*, *Gradius* and *Paperboy* are also worth mentioning, the first for being a spiritual successor to home computer game *Dandy*, the second for kicking off Konami's long-running franchise and the third for its cool innovative handlebar controls.

Games like *Punch-Out!!* allowed Nintendo to dominate the gaming market in the US.





Isometric games ruled supreme in the Eighties and *Head Over Heels* remains one of the best.

Why beat one person up in a videogame when you can take two on at once? *IK+* was a sensational sequel from Archer McClean.

1986: SEGA JOINS THE CONSOLE BATTLE

1986 continued the dominance of console gaming. It also saw Sega attempt to break into the US with the Master System; unfortunately, despite having a large number of great games that made many of the older 2600 and ColecoVision games look rather tired, it couldn't break Nintendo's stranglehold on the market. Home computers continued to do well, particularly the 8-bit systems like the C64 and Spectrum and developers and publishers continued to see success on them. Codemasters was one of the more notable developers to appear, providing targeted budget software, something that had already proven a successful tactic for companies like Mastertronic. Formed by previous Mastertronic stalwarts Richard and David Darling, it instantly made a big impact with the excellent *BMX Simulator* and continued to release a number of popular games, including the classic *Dizzy* series by the Oliver twins.

1987: SUCCESS FOR SEGA OVERSEAS

1987 finally saw the release of the Master System in Europe, where it actually did well. In fact it became the dominant console for the most part, as Nintendo was not able to replicate the same success it had managed in the US and Japan. 1987 was also the year that NEC launched its PC Engine in Japan. Famed for its iconic appearance and stunning range of arcade ports and classy shooters, it instantly became a must own for importers, who were all eager to get their hands on the powerful console. A far bigger deal in the west was the launch of the Amiga 500, which was a lower-cost version of Commodore's earlier Amiga 1000 and a direct competitor to the Atari ST. Fierce battles would break out between owners of both machines, mirroring the same spats that were dominant between owners of the Commodore 64 and Spectrum. 16-bit systems like the Amiga and ST were far more capable than their 8-bit counterparts and as a result could offer far more ambitious games, as the likes of *Dungeon Master* and *Defender Of The Crown* proved. It wasn't all 16-bit focused, however, as 1987 was also the year that Acorn released its 32-bit Archimedes, a system that had numerous updated models until the release of the Acorn A4000 in September 1992. Japanese games continued to dominate the market for much of 1987 with Nintendo releasing *The Legend Of Zelda* and *Metroid* in the west, as well as *Punch-Out!!*. Capcom released the first of six *Mega Man* games on Nintendo's console, while Konami released *Castlevania II: Simon's Quest* and *Metal Gear*. The 8-bit home computers were far from out, however, with innovative titles such as *Maniac Mansion, Barbarian: The Ultimate Warrior, The Last Ninja, Head Over Heels, Driller* and *Skate Or Die!* impressing all that played them. It was a great time for arcade gaming, too, with the excellent *Double Dragon* reinvigorating the scrolling fighter, *R-Type* doing a similar number on the shoot-'em-up genre, while Taito's *Rastan* and *Operation Wolf* capitalised on western movies like *Conan The Barbarian* and *Rambo* (the latter would also help inspire Konami's *Contra* series). Oh and some little-known game called *Street Fighter* got released. Anyone remember that?

Captain Blood was a superb Atari ST game that Amiga owners never got to play.

Capcom's sequel to *Street Fighter* was a gigantic hit for the company and the series is still going strong today.

1988: 16-BIT CONSOLE POWER ARRIVES

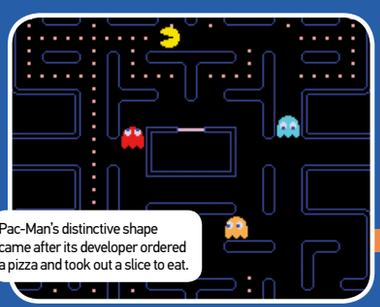
1988 introduced the first true 16-bit console in the shape of Sega's Mega Drive but we'll make little real mention of it here as it wouldn't come out in the west until late 1989 and had most of its real success in the Nineties. Sega's 16-bit machine was originally released with a conversion of the arcade game *Altered Beast*, with many reviewers at the time being impressed with the quality of the port. The focus was slowly drifting over to home consoles and 16-bit computers but many 8-bit games were continuing to prove successful with consumers. Most notable was EA's *John Madden Football*, which would become an absolutely gigantic hit during the Nineties on the aforementioned Mega Drive and remains popular to this day. Other notable 8-bit games from 1988 include the excellent shooter *Armalyte*, *Dizzy* sequel *Treasure Island Dizzy*, *Emlyn Hughes International Soccer* and *Target: Renegade*, an exclusive home computer sequel to the earlier popular arcade game by Technos. *Exile* proved that the BBC Micro was still capable of delivering stunning games and that it wasn't just for doing school work on, while *Laser Squad* proved that systems like the Spectrum could still deliver mind-bending blockbusters. Most of the big advancements were taking place on the home consoles, however. Japanese gamers were getting to grips with the excellent *Super Mario Bros. 3*, while US gamers got to enjoy *Super Mario Bros 2* – which was essentially a reskinned version of a NES game known as *Yume Kojo: Doki Doki Panic* in Japan. Arcades were also thriving with sequels to *Double Dragon* and *Ghosts 'N Goblins* (*Double Dragon II* and *Ghouls 'N Ghosts*) and the stupidly violent *NARC* being just some of the titles that were stealing the coins of gamers all around the world.

GAMES THAT DEFINED THE 80s

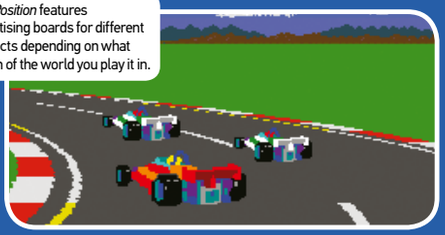
PAC-MAN

YEAR RELEASED: 1980

Originally known as *Puck Man* in Japan, Toru Iwatani's game was a huge success for Namco and proved popular with gamers of all ages and genders. Set in a single screen, it requires you to eat all the pellets in a maze, while avoiding the four deadly ghosts that dwell there.



Pac-Man's distinctive shape came after its developer ordered a pizza and took out a slice to eat.



Pole Position features advertising boards for different products depending on what region of the world you play it in.

POLE POSITION

YEAR RELEASED: 1982

Racing games have always been a good way to show off cutting-edge technology and Namco's arcade racer was no different. It's another smash hit from the creator of *Pac-Man* and became the highest grossing arcade game in North America in 1983. It's not connected to the cartoon that was popular at the time.

TETRIS

YEAR RELEASED: 1984

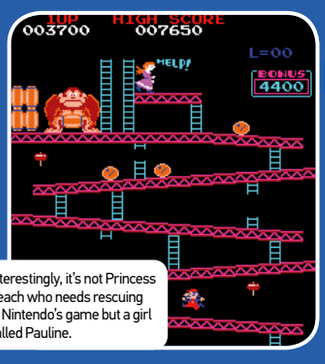
Slotting different shapes together to form solid lines might not sound fun but your assumption would be hilariously wrong. *Tetris* is an incredible feat of programming and was largely responsible for making the Game Boy a hit. It's had countless sequels over the years, with the latest, *Tetris Effect*, having a funky VR mode.

Amazingly, Alexey Pajitnov didn't start receiving royalties for his game until he formed The Tetris Company in 1996 with Henk Rogers.

DONKEY KONG

YEAR RELEASED: 1981

1981 was a golden age in general for many arcade games but it was an important one for Nintendo as it established two key characters for the company: Mario and Donkey Kong. Both characters went on to become huge successes for Nintendo, with Mario becoming the company's most bankable star.



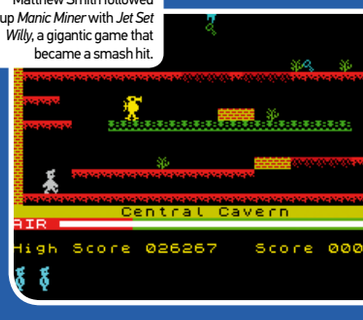
Interestingly, it's not Princess Peach who needs rescuing in Nintendo's game but a girl called Pauline.

MANIC MINER

YEAR RELEASED: 1983

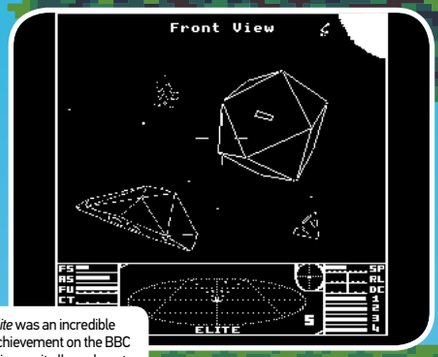
If you were a Spectrum owner, chances are you had *Manic Miner* in your collection. Coded by teenager Matthew Smith, it's a superb single-screen platformer that introduced you to Miner Willy and proved that home computer games could be just as fun as anything found in your local arcade.

Matthew Smith followed up *Manic Miner* with *Jet Set Willy*, a gigantic game that became a smash hit.

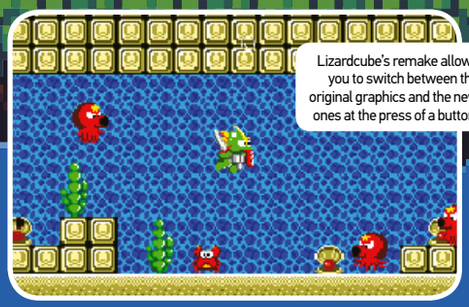


1989: PLAYING WITH POWER

While 1989 would be a relatively slow year for the Mega Drive, it would be the year the Commodore's Amiga 500 really rose to power. Killer games such as *Shadow Of The Beast, Kick-Off, F-16 Combat Pilot, It Came From The Desert* and *SimCity* highlighted just how hard the machine was being pushed compared to the 8-bit systems, while the *Batman* pack, which included Ocean Software's fantastic conversion of Tim Burton's hit film, was a phenomenal success. The machine was really coming into its own and many of the games released at the time were often better on Commodore's machine than they were on Atari's ST. There were still great games being released on the 8-bit systems but it was becoming more and more obvious that the Nineties were going to belong to consoles and the 16-bit computers. Budget labels continued to do well during this time, while arcade conversions like *Dragon Ninja, Forgotten Worlds* and *Gauntlet II* continued to do healthy business for their publishers. 1989 is also memorable for the release of two important consoles. One was the Atari Lynx, a portable colour handheld with 16-bit capabilities, while the other was Nintendo's Game Boy, a monochromatic handheld that came with the world-conquering *Tetris*. While Atari's machine was more powerful, Nintendo's system had the more popular games and an excellent battery life and it led to Nintendo dominating the handheld market for years to come. But that's a story for another day...



Elite was an incredible achievement on the BBC Micro as it allowed you to explore countless worlds.

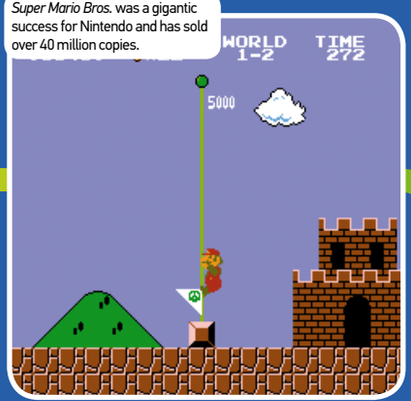


Lizardcube's remake allows you to switch between the original graphics and the new ones at the press of a button.

SUPER MARIO BROS.

YEAR RELEASED: 1985

Shigeru Miyamoto's sensational NES game helped redefine the platformer and turned Mario Mario (yup, that's his actual surname) into an international star. It convinced kids that the NES was *the* console to own and it formed the foundation for one of Nintendo's greatest-selling franchises. An incredible game that remains great fun to play.



Super Mario Bros. was a gigantic success for Nintendo and has sold over 40 million copies.

There is no two-player mode in *R-Type* but you were able to take on the Bydo Empire with a friend in 1992's *R-Type Leo*.

R-TYPE

YEAR RELEASED: 1987

Irem's horizontal-scrolling shooter proved that the genre still had plenty to give in the late-Eighties. Its horrific looking bosses and biomechanical style instantly made it stand apart from its peers, while its innovative 'Force' mechanic (essentially a remote drone) popped up in many similar games. It was recently re-released on Switch.

WONDER BOY III: THE DRAGON'S TRAP

YEAR RELEASED: 1989

Originally released as an exclusive for Sega's Master System, Westone's adventure was memorable for its *Metroid*-like level design, delightfully jaunty tunes and the way Wonder Boy could transform into a brand-new animal form, which would open up new paths for him. It was recently remastered by Lizardcube for modern systems.

Mega Man 2 is infamous for its terrible western boxart that features an unflattering looking Mega Man dispatching bad guys.

OUTRUN

YEAR RELEASED: 1986

Sega was still a dominant force in arcades during the Eighties and games like *OutRun* were the reason. It's a sensational arcade racer that's just as famous for its stunning visuals and scintillating soundtrack as it is for its challenging game mechanics. Sadly, its home conversions were rather weak.

Yu Suzuki was inspired by *The Cannonball Run* and went to America for research. He wasn't happy with his results and headed to Europe.

MEGA MAN 2

YEAR RELEASED: 1988

Capcom's *Mega Man* series was so popular that six games were released on the NES alone. The second entry is arguably the best of those early games thanks to its challenging difficultly level, entertaining selection of bosses to fight against and a superb soundtrack. The eleventh game in the core series was released in 2018.

THE STORY OF... PAC-

PROGRAMMER TOD FRYE MADE VIDEOGAME HISTORY WHEN HE DESIGNED THE ATARI 2600 VERSION OF PAC-MAN. BUT NEARLY 40 YEARS LATER, THAT INTENSE EXPERIENCE, THE GAME'S RECEPTION AND GHOSTS OF THE PAST ARE STILL CHASING HIM. TIM LAPETINO RUNS DOWN THE STORY

In early 1981, Atari assigned a brilliant, formerly homeless, high school dropout to one of its most important games ever – the home version of its mega-hit *Pac-Man*.

Pac-Man's pop culture invasion began a year earlier, when an army of little yellow dot-munchers stormed the arcades, pool halls and convenience stores of America. The wildly-popular arcade game smashed demographic barriers around the world with its approachable, non-violent game design. Players of all ages and walks of life were drawn to one of the first character-based videogames. *Pac-Man* was a genuine phenomenon, selling an estimated 400,000 cabinets worldwide. The game also spawned a merchandising bonanza, with the character's image emblazoned on bedsheets, drinking glasses, T-shirts, stickers, cereal, a Saturday-morning cartoon, and even a pop single.

Atari was betting gamers would play *Pac-Man* at home, too, when it acquired the home videogame rights from *Pac-Man*'s parent company Namco. The arcade game's popularity guaranteed that it would come to living rooms on the popular Atari 2600, the home console.

The job fell to programmer Tod Frye, who was regarded as a brilliant, but undisciplined, software engineer at Atari. In high school, he cut classes – hiding in a closet to smoke pot and program on a Wang 3300 computer to produce a text-based adventure game with the player cast in the role of drug dealer. "I wasn't drawn to athletics," he remembers. "I wasn't drawn to acting. I was drawn to programming. It just found me." Tod could look at code and see "a problem to be fixed", and writing code offered him "a godlike power to make things right, to bring order to chaos – to create something that wasn't going to be there if you didn't make it". ▶

» The Atari 2600 was no stranger to big arcade ports, thanks to releases like *Space Invaders*.

MAN
ON ATARI 2600

10 OTHER ATARI 2600 ARCADE PORTS

SPACE INVADERS

■ This translation of the monumentally popular arcade game was instrumental in resuscitating the struggling Atari 2600 in 1980, turning this timely port into the industry's very first killer app. *Space Invaders* at home was a strong port of the original that made Atari's first home console a huge success.

DEFENDER

■ While this port has been maligned in some circles for its simplified game design, programmer Bob Polaro did a yeoman's work in reinterpreting the complex arcade controls for the Atari 2600's single-button joystick. While it's not as difficult as its arcade predecessor, it captures the original's essence well.

MISSILE COMMAND

■ Atari's apocalyptic arcade game was translated beautifully for the Atari 2600, despite cutting some of its bells and whistles. It removes the final, haunting mushroom cloud and ominous 'The End' titles of the game's finale, but otherwise captures the zeitgeist from the original Cold War-era classic.

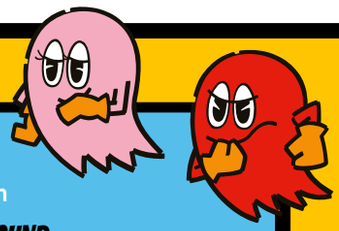
JUNGLE HUNT

■ This vine-swinging adventure game stacks up well, even to another jungle-themed classic such as *Pitfall!*. *Jungle Hunt* on the Atari 2600 tightly reproduces the four unique game screens of the arcade original in a way Atari's home console can handle, even with the inclusion of some subtle parallax scrolling.

CRYSTAL CASTLES

■ The eye-popping isometric maze graphics and animation of the arcade game are missing, but the game plays well even in its slimmed-down version. The mazes are unique and the game plays fast and fun, especially if you can replicate the arcade feel with the console's separate Trak-Ball controller.

CREATING PAC-MAN



The differences between arcade and 2600 Pac-Man

MAZE AND DOTS

The 2600's graphics limited the number of dots on screen, and increased their minimum size. Atari compensated by calling them "video wafers" in the game manual. The vertical maze orientation had to change to fill the more horizontal 4:3 ratio of vintage televisions.

CHARACTER ANIMATIONS

To conserve memory, Tod simplified animations, removing details like Pac-Man's vertical rotation, and the more complicated ghost animation, which had to be condensed into two-frame animations for the 2600.

FLICKER

Tod utilised a flicker technique that strobed the ghost character graphics so that all four appeared on-screen at once – something that had never been done on the 2600 before. He also justified this approach, noting that the ghosts were ephemeral spirits. Though the method was successful, players complained about the constant flicker. Atari grilled Tod about it after the game's release. Tod explained that the 4K memory prevented him from using a solution other than flicker. Not coincidentally, *Pac-Man* was the last of Atari's 4K games.

MAZE COLORS

The Atari 2600 version of *Pac-Man* includes maze colours that do not match those of the original arcade game, which was a sore point for fans. The colours were Tod Frye's own decision. "What I think is really interesting about that is that no one knew that a necessary part of the *Pac-Man* signature was the colours," he says. "And it's easy for people to say, 'Oh, it was obvious!' But you know what? It clearly was not obvious."

ARCADE SOUND

The delicate 'waka waka' eating sounds of the arcade *Pac-Man* were replaced with the blunt bonking sounds generated by the 2600's primitive sound chip. The urgent, jarring siren background sound was absent altogether.

TWO-PLAYER GAMEPLAY

Later adaptations of *Pac-Man* and *Ms Pac-Man* dropped the option of two-player gameplay, a feature that Tod Frye refused to eliminate. The decision would have saved him precious bytes to utilise elsewhere, but he deemed it essential in capturing the spirit of the original.

FRUIT VS VITAMINS

Arcade *Pac-Man*'s levels are often designated by the different fruit – cherry, strawberry, orange and the rest. The bonus fruit are worth varying point totals, but had to be eliminated from the Atari 2600 version because of memory constraints. In their place, Tod used a rectangle within a rectangle shape, which Atari's manual writers dubbed a 'vitamin'.

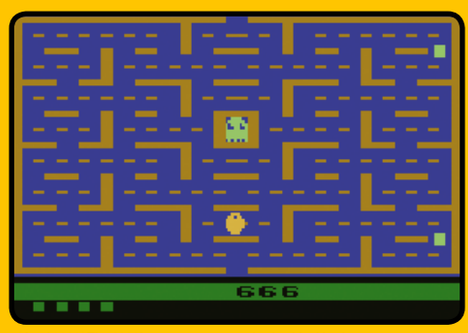
CUTSCENES

A unique storytelling aspect of *Pac-Man* was excised when the game translated from arcade to the 2600 home console. The whimsical animated interludes, a fun and brief respite from the fast-paced game itself, were removed to preserve memory for the crucial gameplay.

Tod dropped out of high school in his junior year, and his father kicked him out of the house. Rebellious and homeless on the streets of Berkeley, he panhandled until finding work on a construction crew, eventually becoming a master carpenter. Later, a high-school friend helped him get an interview at Atari, and Tod returned to the only calling that had captivated him. He began work as a game programmer in 1979, at one of Silicon Valley's hottest companies.

His initial projects included a handheld *Breakout* game and the Atari 400/800 version of *Asteroids*. Like many others, he enjoyed the freewheeling culture of Atari, where employees mixed the business of game programming with chemical pleasure. On fellow programmer Howard Warshaw's first day, Tod introduced himself by lighting up a joint in his office and inviting Howard to smoke with him – only "the good stuff".

Tod also showcased his oddball side. He earned the nickname of 'Arfman' for barking like a dog as he roamed the halls. The tall programmer would literally scale Atari's walls, too, placing a foot on each wall of the narrow hallways of the company's Sunnyvale headquarters, then cantilevering his way down the corridors several feet off the ground.



» [Atari 2600] The 2600's maze was created using blockier, lower-resolution 'playfield graphics' mirrored across the vertical axis.

TRACK & FIELD

■ Atari preserved the fast-paced experience of this Konami classic on the 2600. The game challenging both with the standard joystick, and using the pack-in arcade style controller. Much like its excellent Olympic cousin, *Decathlon*, *Track & Field* is as physically demanding as a classic console game gets.

DOUBLE DRAGON

■ Credit to programmer Dan Kitchen for even attempting this popular arcade game near the end of the 2600's lifespan. It has two-player action and multiple levels, but the game is crushingly difficult because its crucial special moves have been distilled into awkward combos on the 2600's single-button joystick.

RAMPAGE

■ Some arcade translations are too ambitious for their own good, and this particular Atari 2600 port sheds too much of the original's charm. In trying to preserve *Rampage*'s signature two-player mayhem, the 2600 conversion falters with poor collision detection issues and a weak graphical style.

CENTIPEDE

■ Atari managed to capture the frenetic pace of the arcade in this Atari 2600 counterpart, and it plays even better with Atari's Trak-Ball controller. The graphics are a significant step backward from the arcade original, but the pure and compelling gameplay almost makes up for that loss.

STAR WARS: THE ARCADE GAME

■ It's almost shocking how well this iconic space shooter looks and feels on the Atari 2600. The colour vector graphics and immersive cockpit cabinet are missing, of course, but the 2600 does a fine job of replicating the dogfights and trench run from the arcade original.

"THE EFFORT WAS TO CATCH THE ESSENTIAL FEELING, THE ETHOS, THE SPIRIT – THE SOUL OF PAC-MAN"

TOD FRYE

» [Atari 2600] Tod's *Pac-Man* added an eye for the onscreen character before any other game had done so. Call it a wink.

His wall-walking habit ended abruptly when he smacked a ceiling-mounted sprinkler with his forehead, requiring 23 stitches.

With talent and quirkiness to burn, Tod appeared to be a perfect match for Atari. But during a crucial review, Tod's boss suggested that he wasn't fitting in well – and should consider looking for another job. "He said, 'Look, you're probably a real good programmer, but you're not putting out,'" Tod recalls. The conversation stunned the young game designer and left a lasting impression. He smoked one more joint, and threw up. Tod then went completely sober for almost a year while working on *Pac-Man*. The game was a chance to prove his worth at Atari. "I buckled down," he remembers.

Translating the hit game to the 2600's primitive hardware was a serious challenge, and the programmers knew it. Colleague Bob Polaro passed on *Pac-Man* because he thought it impossible, selecting another arcade conversion instead – the popular *Defender*. Tod accepted the *Pac-Man* assignment, spending 80-hour weeks over the next six months trying to create a worthy version of the game on lesser hardware. "I was sufficiently unprofessional that I gave my very best," he says. The difficulty of the task sharpened his work habits and dedication.

The Atari 2600 was initially created to play *Pong* variations and *Tank* games, staples of the Seventies arcade era. The machine wasn't designed to play sophisticated arcade-style games that Atari was now trying to create. So, it was quite a technological achievement to tackle *Pac-Man*. "There's a lot of tradeoffs involved," Tod explains. "It's a very, very constrained system."

Hindsight makes the translation seem like straightforward, but that is surely revisionist history. The coin-op *Pac-Man* machine used a custom-made arcade system board with hardware running three times as fast as the 6502 microprocessor which powered Atari's 2600. The arcade game contained 16K of ROM, 2K of video RAM and 2K of general RAM, whereas the *Pac-Man* 2600 cartridge was limited to 4K of ROM in total – one quarter of the arcade machine. The 2600 also had less ability to display background graphics, which meant that any maze Tod created would have to be simpler and blockier, utilising chunky playfield graphics. In designing this version, he'd need to execute some clever programming tricks just to make it happen.

Faced with extensive (and necessary) compromises, Tod took a pragmatic view of translating *Pac-Man*. "I was thinking of it as an abridged adaptation," he said, "and the effort ▶

FIVE HOMEBREW VERSIONS

The best from the new wave of Pac-Man conversions

PAC-MAN 4K

■ Programmer Dennis Debro sought to create a version of *Pac-Man* for the Atari 2600 that was more faithful to the arcade game while still remaining within the same 4K memory limit as Tod Frye's original game. The results are nothing short of impressive.

8K PAC-MAN

■ Daniel _____ (DINTAR816) took 2600 *Pac-Man* one step further and designed a *Pac-Man* game that utilises 8K of ROM and includes all the bells and whistles of the original arcade game, like animated cutscenes, improved sound and incredibly faithful ghost AI.

PAC-MAN COLLECTION FOR COLECOVISION

■ A version of *Pac-Man* was planned for the ColecoVision, but was never completed. Eduardo Mello of Opcode Games took it upon himself to remedy that with the homebrew *Pac-Man Collection* containing versions of *Pac-Man*, *Ms Pac-Man* and another hidden game.

JR PAC-MAN FOR ATARI 7800

■ The side-scrolling mazes of this overlooked *Pac-Man* sequel are challenging on any platform, and Bob DeCrescenzo brings a faithful rendition of the game to the Atari 7800 with a variety of player-friendly difficulty settings.

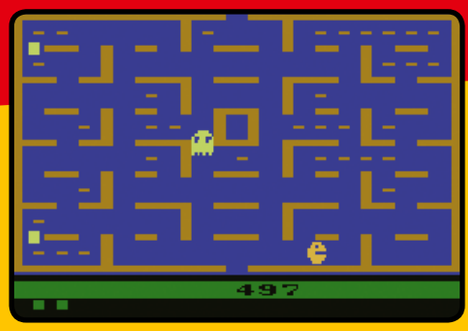
CRAZY OTTO FOR 7800 HOMEBREW PAC-MAN

■ *Crazy Otto* was an unlicensed enhancement kit for *Pac-Man* arcade machines developed by General Computer Corporation. GCC worked with *Pac-Man* licensee Midway to turn the game into the beloved sequel, *Ms Pac-Man*. Programmer Bob DeCrescenzo hacked Atari's 7800 *Ms Pac-Man* game to better match GCC's original game.

▶ was to catch the essential feeling, the ethos, the spirit – the soul of *Pac-Man*. *Pac-Man* was known to be a repeated pattern game. So, I worked out a very precise, repeatable logic for how the ghosts worked. It was not the one [arcade *Pac-Man* creator Toru] Iwatani used, but that wasn't computationally possible for me. What that actually means is, like coin-op *Pac-Man*, my *Pac-Man* produces completely reproducible patterns. If you do the same thing every game, it will do the same thing every game. And that's actually the level at which I understood the ethos or spirit of *Pac-Man*. It's a fundamental. I really honestly intended my *Pac-Man* to be as faithful a representation as I deemed possible and necessary."

The game arrived to much fanfare, and its initial performance did not disappoint. Sales were stratospheric, and *Pac-Man* would go on to be the bestselling Atari 2600 game of all time, moving a reported 7.7 million cartridges and earning nearly $200 million in gross profits for Atari. But a growing discontent began to fester beneath the glowing balance sheet. On 11 May 1982, *Electronic Games Magazine* published its first-ever bad review for an Atari videogame, saying, "Considering the anticipation and considerable time the Atari designers had to work on it, it's astonishing to see a home version of a classic arcade contest so devoid of what gave the original its charm." *Softline* computer magazine wrote that the 2600 version looked "less like Midway's original than any of the pack of imitators".

Tod's concessions to the 2600's hardware were obvious to devoted fans. The maze colours were different, the characters less detailed, and the game seemed to underscore the console's advanced age. For his part, Tod was unaware of the criticism, already working on his ambitious *Swordquest* series. "I didn't really know about all of the bad press for a long time," he says. "I was doing the next thing." The 2600 version of *Pac-Man* would eventually unfairly acquire the reputation as a half-hearted effort, a corporate cash-in. Early video game journalists certainly didn't rush to Tod's aid, either. Harsh reviews were just "part of the meat grinder *Pac-Man* went through", he later decided.

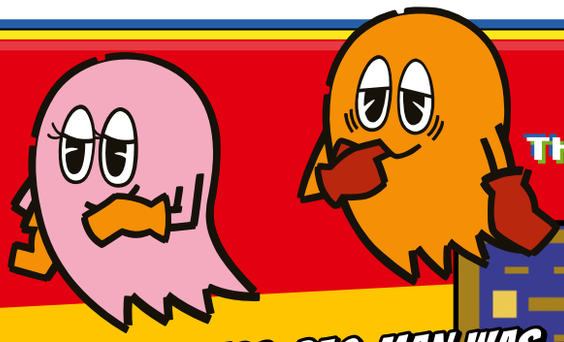


» [Atari 2600] Tod Frye used a pseudo-random number generator for the game logic, which made the ghosts act in consistent, repeatable ways.

You know what I say? Fuck the press," Tod retorts, now with 37 years of reflection. "*Pac-Man* was very, very credible. The things the press doesn't like were just the fact that it was the first. We would have fixed the obvious, easy-to-fix things that people harp on, if anyone anywhere in the human species had known at that point. No one knew. History was being made. We were just finding out what the rules were. That's what it is to be a pioneer."

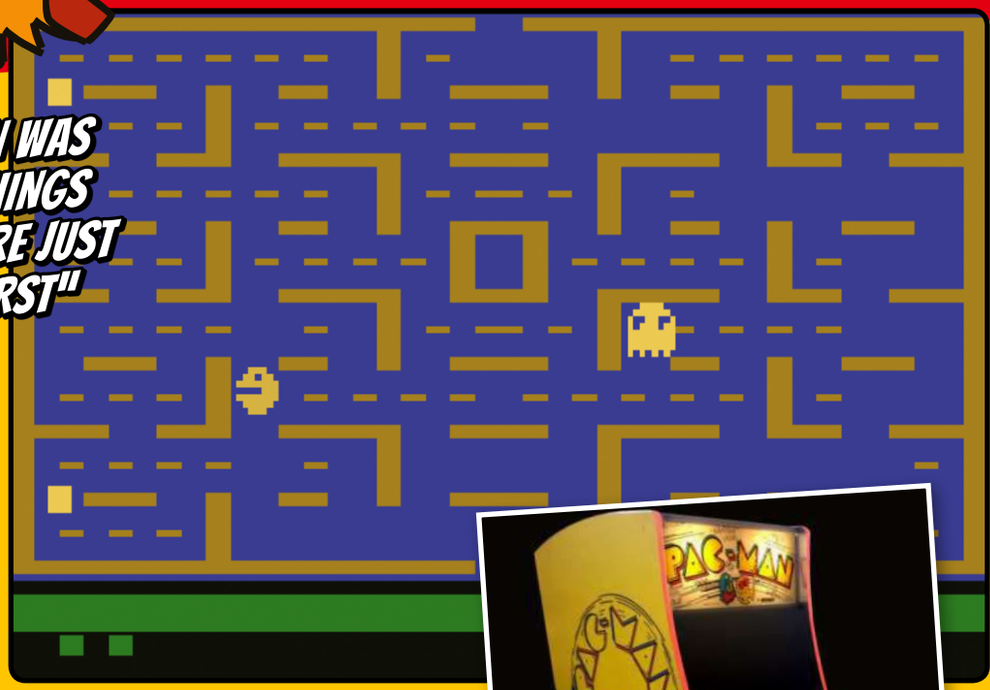
Some within Atari felt the game wasn't ready for prime time. Atari's marketing manager of coin-ops, Frank Ballouz, said in a 1998 interview, "I took a look at this bullshit game and told Ray [Kassar, CEO of Atari] that no one's going to want to play it. But he didn't listen to me." But that seemed to be a minority opinion, as many Atari programmers were impressed with Tod's translation and what he was able to squeeze out of the aging 2600.

"The idea of what it meant to be a faithful representation of *Pac-Man* was not established," Tod says. "It did not exist at the time I wrote *Pac-Man*. No one else in that whole process really knew it. [Later], we, as a culture,



"F*CK THE PRESS. PAC-MAN WAS VERY, VERY CREDIBLE. THE THINGS THE PRESS DOESN'T LIKE WERE JUST THE FACT THAT IT WAS THE FIRST"

TOD FRYE



» [Atari 2600] Tod Frye believes empathy makes a good game designer, "Being able to project what it will feel like to play that game if you're someone else."

invented the idea of a meaning and created a definition of what an adaptation was. There is a direct connection between 2600 *Pac-Man* and arcade *Pac-Man*, and I was influenced by arcade *Pac-Man* when I made mine." Details like colour fidelity and maze design might seem like obvious decisions in retrospect, but Tod is adamant that those pioneering days left zero road maps for game development. "Not only did I get to be a case study," he says, "but I got to help make the rules, to help find out in that back and forth, which is only done through whole product development cycles."

It's also probable that the marketing hype behind the game heightened anticipation to unreasonable levels – which led to a rubber band reception when the game didn't perfectly align with expectations.

During Tod's development of *Pac-Man*, Atari initiated a program of profit sharing ("incentive compensation bonus") to prevent senior game programmers from leaving and becoming competitors – as in the case of third-party developer Activision. This reward system wasn't instituted until after *Pac-Man* was completed, but it was life-changing for Tod. The agreement would award him $0.10 for every *Pac-Man* game sold. After its wild success, Tod was suddenly very rich, eventually earning more than $1.3 million in incentives.

The financial windfall was both liberating and overstimulating. "It was overwhelming. It's like winning the lottery," he said. "I was a little defiant, and I was a little out of touch. You don't deal with that as a 26-year-old. It was a lot of marijuana and cocaine. It completely changed my life." Tod struggled with this wealth. "In those three years I went from a salary of $19,000 a year to a $320,000 royalty check. It did bend my brain, and it did honestly put my life in danger. But I survived. There are things I would do differently if I could have."

» [Atari 2600] Atari's 2600 version of *Ms Pac-Man* benefitted from critical hindsight and a larger 8K memory limit to faithfully adapt the arcade game.

He taped a photocopy of his first royalty check – $320,000 – to a public bulletin board at Atari HQ. "I have no idea why I did that," he says. "I really don't. It was a long time ago. It sounds like something I shouldn't have done. Fuck if I know. I was only 26."

Tod bought 15 vintage guitars, new suits, two Alfa Romeos, a ranch in New Mexico and more. With the pressure release valve of such success, more of Tod's blunt intelligence came out, and to some colleagues, it seemed like arrogance. Did that resentment go both ways? "Some people viewed me as a genius and some saw me as a clown," Tod explained in a 1997 documentary. The license plate of his new Alfa Romeo Spider read 'PACMAN'.

By 1985, most of the money was gone. Bad advice and poor choices drained him financially. "I was on a downward spiral," he said. "It was too much money, too fast. It was more power than responsibility, and it broke me."

Some reviewers claim that 2600 *Pac-Man*'s critical failure started a landslide that began Atari's downfall. While *Pac-Man* might have forced game buyers to look more cautiously at new releases, its negative impact has been overblown. "They say, '*Pac-Man* and *E.T.* ruined a whole business!'" Todd laughs, "If I had that kind of power, I would productise it and retire! It's foolishness. A lot of times people want a story – not even a particularly believable story. But they want a story."

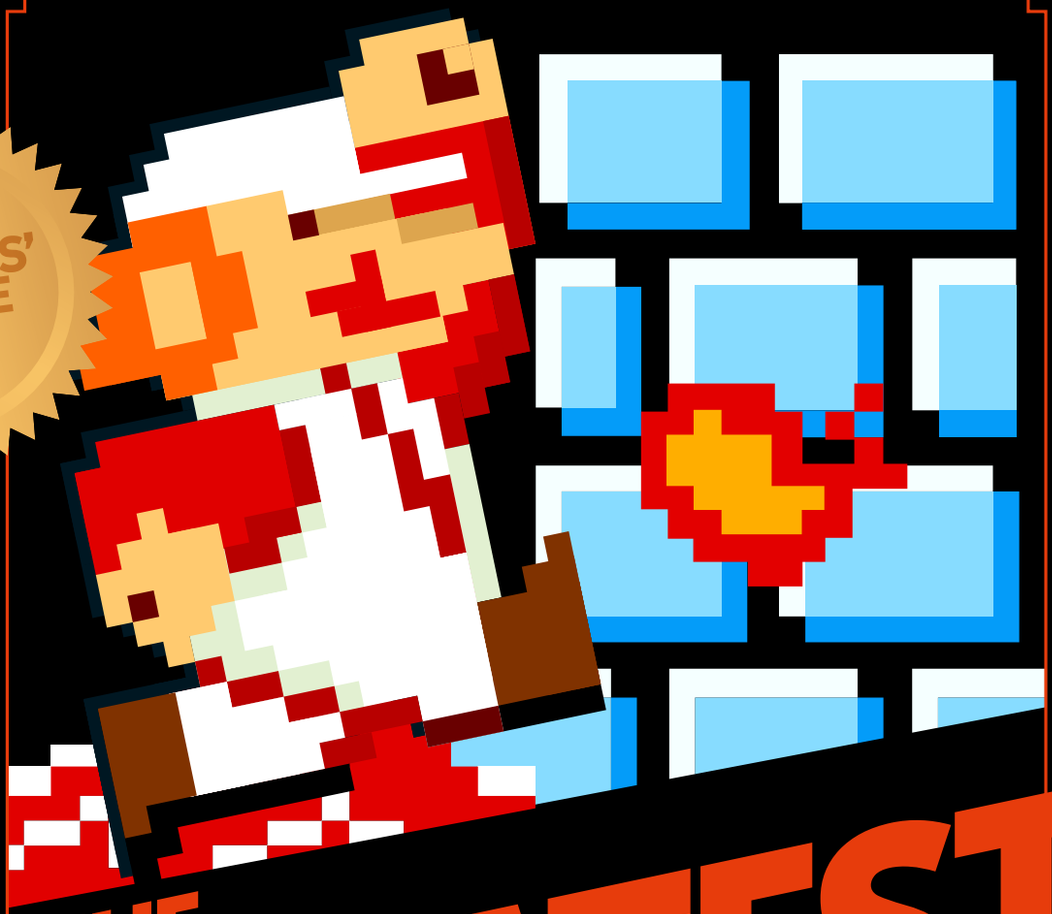
Yet he does realise that now, 37 years later, with an impressive software engineering career working on everything from videogames to solar power and AI – he'll always be known for *Pac-Man*.

© Tim Lapetino

"*Pac-Man* was such a big part of my biography that I'm going to be living with it for the rest of my life," he says. "I feel different ways about that. The amount of critical scorn it's gotten and the swarms of tribal fanboys pissing all over it are not an ego booster. It actually is a self-esteem challenge. Some people want to say '*Pac-Man* sucked!' and I gave them that opportunity." After *Pac-Man* and the *Swordquest* series, Tod continued making games, both for the Atari 2600 and other later-generation consoles. But creating *Pac-Man* for the Atari 2600 is an experience that will never leave him. It was more than just another project. Its cultural significance, popularity and reception made a lasting mark. "In some way," he said, "who I am touched all those tens of millions of people."

In the final analysis, 2600 *Pac-Man* deserves a place in videogame history. Tod managed to capture the game's essence in hardware that was nearly 100 times lesser than its arcade predecessor. "I have regrets," he concludes. "But fundamentally, I'm proud. They tell me it's a waste of time to defend *Pac-Man*. I've got time to waste."

retro GAMER READERS' CHOICE



THE GREATEST NES GAMES

Nintendo's 8-bit machine established the company as the dominant force in the international console market, and it couldn't have done so without classic software. Nick Thorpe counts down its top 25 games, as voted for by Retro Gamer readers...

Original Nintendo Seal of Quality

> One of the first games that I tested at Rare. Tricky controls but mastery bought a huge sense of accomplishment. I vividly remember tonguing the giant foot on the moon to win.
>
> Gregg Mayles, Rare

SNAKE RATTLE 'N' ROLL

■ **DEVELOPER:** Rare ■ **YEAR:** 1990 ■ **GENRE:** Platform

25 **Born from an** experimental drive to create a small NES cartridge, *Snake Rattle 'N' Roll* sees players chasing down and eating Nibbley Pibbleys in order to grow their snake, in order to tip the level's scales and open the door to the next stage. Rare's isometric action game is a tricky one to categorise – but that's not a bad thing, as it's a unique experience. Be sure to try the simultaneous two-player mode, too!

BUCKY O'HARE

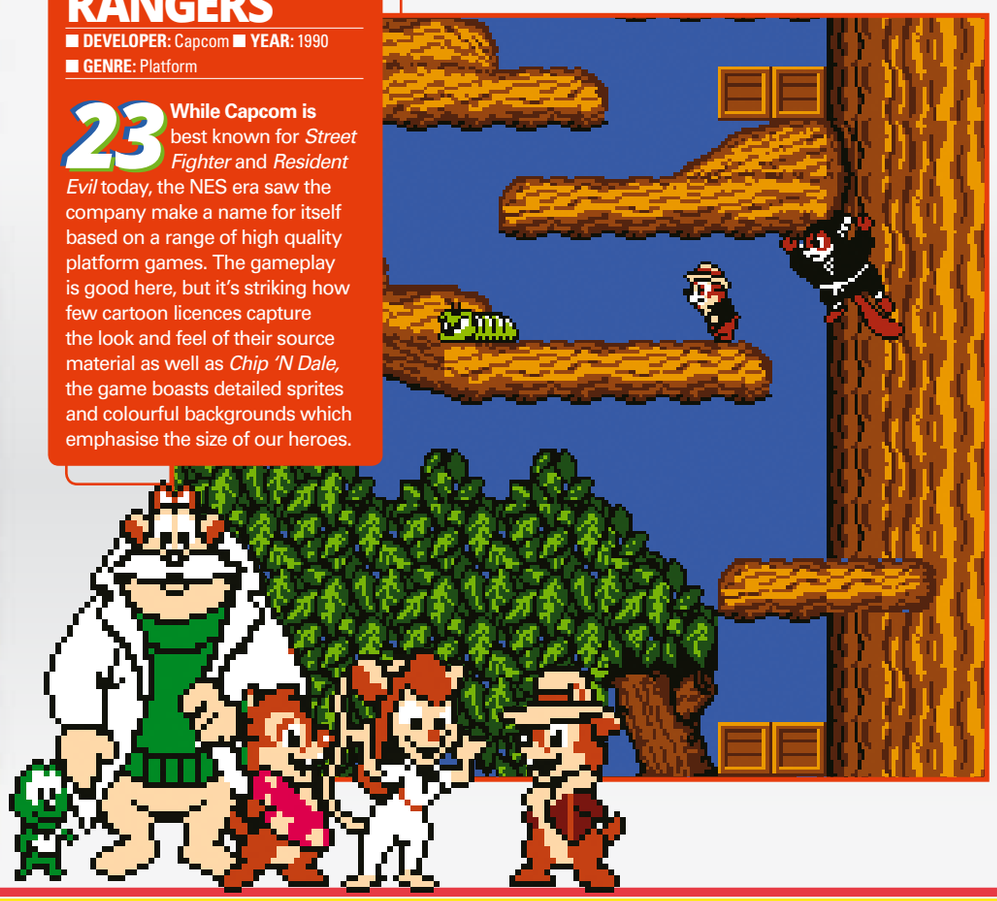
■ **DEVELOPER:** Konami
■ **YEAR:** 1992 ■ **GENRE:** Platform

24 **The spotlight might** not have shone on *Bucky O'Hare* for long, but Konami ensured that he got a very good licensed platform game while it did. It's similar to *Mega Man* in structure, with Bucky seeking to rescue his crew members from the Toad Empire across a variety of planets, which can be tackled in any order. Arriving late in the life of the NES, *Bucky O'Hare* provided some of the most attractive visuals on the system alongside some pretty strong gameplay.

CHIP 'N DALE: RESCUE RANGERS

■ **DEVELOPER:** Capcom ■ **YEAR:** 1990
■ **GENRE:** Platform

23 **While Capcom is** best known for *Street Fighter* and *Resident Evil* today, the NES era saw the company make a name for itself based on a range of high quality platform games. The gameplay is good here, but it's striking how few cartoon licences capture the look and feel of their source material as well as *Chip 'N Dale,* the game boasts detailed sprites and colourful backgrounds which emphasise the size of our heroes.



EXCITEBIKE

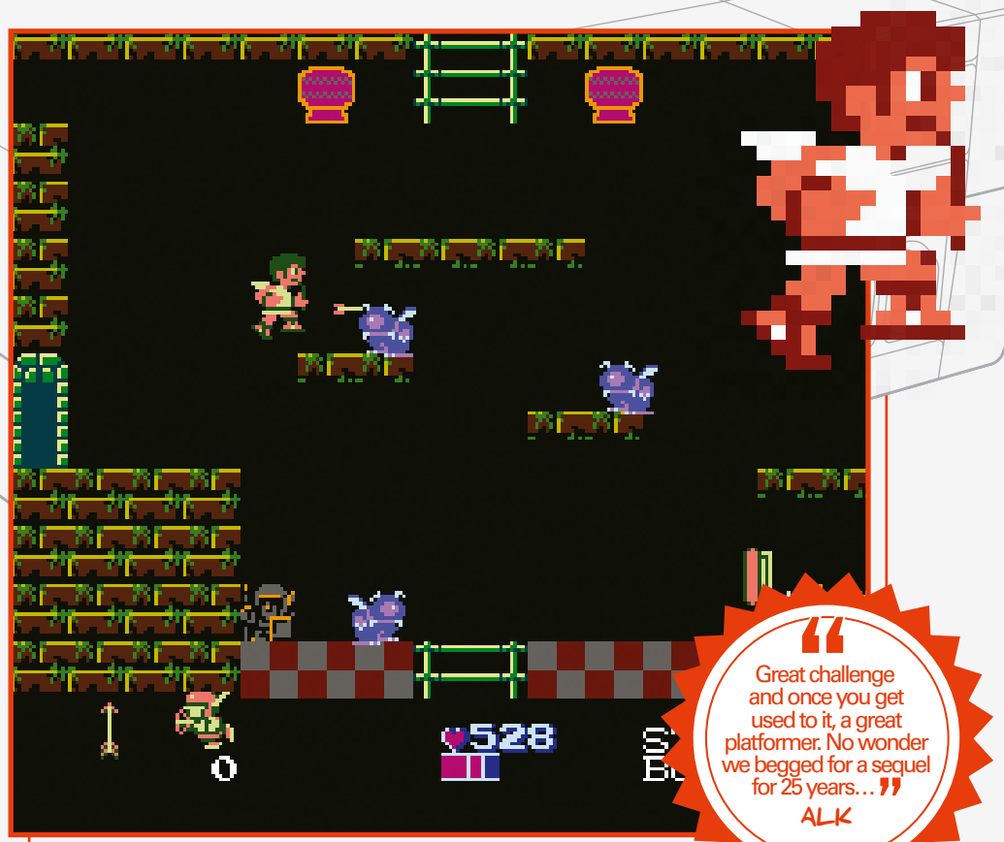
■ **DEVELOPER:** Nintendo R&D1
■ **YEAR:** 1984 ■ **GENRE:** Racing

22 **One of the** interesting things about the NES is that the machine had a very long shelf life, with over a decade between its Japanese release as the Famicom and the final officially licensed games in the mid-Nineties. With so much time for developers to extract the best performance from the machine and all of the additional chips utilised over the years, it's easy to expect that the console's early releases would be overshadowed by the more complex games – but that's not the case, as games like *Excitebike* show.

Excitebike is a simple game. Either alone or with computer controlled riders, your goal is to beat target times on each course in order to progress. This is complicated by obstacles including grass, mud patches, barriers, and the ever-present ramps, which require players to correct their landing angle as they fall – a simple challenge, but one which remains challenging to consistently perform over a long period. Falling off your bike will cost you valuable time, as will overheating the bike by overusing the high speed button. As the game goes on, the courses become more complex, with high angle ramps and fewer clear stretches on the track.

> Typical Nintendo, simple as anything, but hard to master, and it is so much fun.
>
> adippm82

The main thing that set *Excitebike* apart from other NES games was the inclusion of a level editor. While the option to save and load these creations was never available to the West as it required the Japan-only Famicom Data Recorder add-on, the mode extended the game's life considerably once they'd exhausted all of the pre-designed stages. While *Excitebike* might not have been the flashiest game in many players' NES collections, the combination of this mode and the compelling gameplay meant that it was often revisited.



> Great challenge and once you get used to it, a great platformer. No wonder we begged for a sequel for 25 years…
> ALK

KID ICARUS

DEVELOPER: Nintendo R&D1 **YEAR:** 1986 **GENRE:** Platform

21 **Right from the** start, *Kid Icarus* is a game that just *feels* different from its platforming contemporaries. In other games you'll typically traverse a stage from left to right, but *Kid Icarus* starts you off by sending you on a skyward journey, with a playfield that wraps horizontally across the screen – when Pit walks off the right edge, he'll appear on the left. It's a feeling of difference that permeates the game, as while the game offers items and upgrades, it never crosses over into RPG territory. For many years this was one of Nintendo's forgotten properties, with only a Game Boy sequel to continue its lineage, until Pit's adventures were continued in the shooter *Kid Icarus: Uprising* on the Nintendo 3DS.

DOUBLE DRAGON

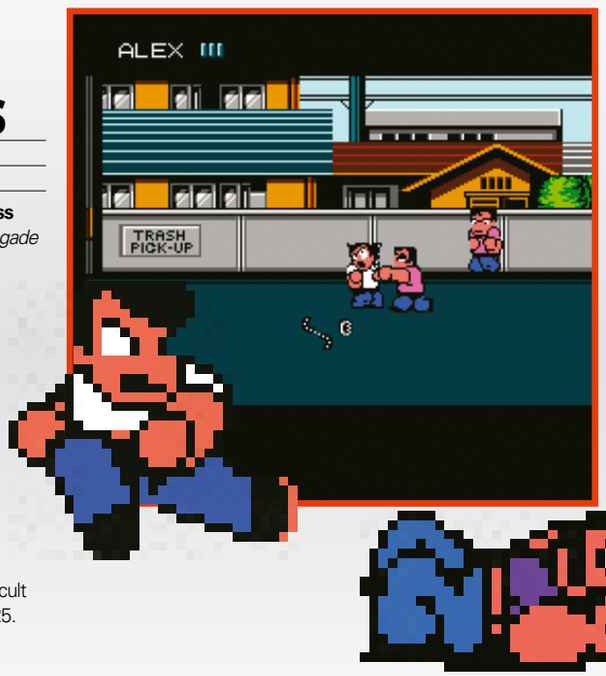
DEVELOPER: Technos **YEAR:** 1988 **GENRE:** Beat-'em-up

19 **The hit beat-'em-up** came to the NES, but rescuing Marian from the clutches of Machine Gun Willy wasn't quite the same proposition as in the arcades. For a start, the simultaneous two-player mode is nowhere to be found, and enemy numbers are limited. Further, stages received some interesting redesigns and all but the most basic fighting moves were gained through an experience system. Despite these changes, *Double Dragon* remained a compelling and challenging beat-'em-up that retained enough of the arcade essence to be truly worthy of the name. Multiplayer fans can also check out Mode B, which features larger character sprites in one-on-one battles and it even allows players to control enemy characters – an interesting novelty, to say the least.

RIVER CITY RANSOM / STREET GANGS

DEVELOPER: Technos
YEAR: 1989 **GENRE:** Beat-'em-up

20 **Following arcade success** with games such as *Renegade* and *Double Dragon*, beat-'em-up innovators Technos returned with a NES title that took the genre in a more console-focused direction. As well as beating up all manner of weirdly-named gangs like The Squids and The Generic Dudes, players can learn moves, develop stats, and even buy items. *River City Ransom* wasn't a huge success when it arrived in North America and it didn't fare a great deal better when it was released in Europe as *Street Gangs*, but the game's reputation has grown, thanks to a loyal cult following, earning its place in your top 25.

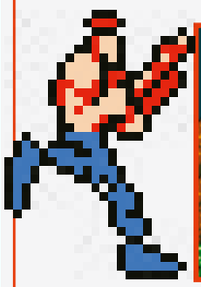


CASTLEVANIA III: DRACULA'S CURSE

■ **DEVELOPER:** Konami ■ **YEAR:** 1989 ■ **GENRE:** Platform

18 **We must admit** to being surprised, here – we were expecting this brilliant platformer to appear much higher in your ranking. The last of the major *Castlevania* games to appear on the NES was a prequel to the events of the first game, starring Simon Belmont's ancestor, Trevor Belmont, as he attempted to defeat Europe's most notorious vampire.

The game left the RPG elements of *Castlevania II: Simon's Quest* and returned to the platform action template of the original game. However, new improvements included a non-linear level structure, additional playable characters with their own unique abilities (including *Symphony Of The Night* star, Alucard) and a more challenging second quest for players that have finished the game. In part thanks to the use of the expensive MMC5 chip, *Castlevania III* boasts some of the most impressive visuals on the system, and the action is accompanied by an excellent soundtrack.



FAXANADU

■ **DEVELOPER:** Hudson Soft ■ **YEAR:** 1987 ■ **GENRE:** Action-RPG

16 **We hear your** cries, dear readers! *Faxanadu* is a game that you've highlighted as being something of a forgotten gem, and its appearance in the top 25 is testament to your strength of feeling on this matter. The player is cast as a wanderer who returns to his home town only to find it in a state of severe decline, and being attacked by dwarves. The high fantasy setting is aided by the fact that *Faxanadu* doesn't utilise the cartoonish look that many NES games adopted, giving it a more mature impression.

The game itself is a side-scrolling action-RPG of the kind that will be familiar to players of games such as *Zelda II* and *Wonder Boy III: The Dragon's Trap*. *Faxanadu* includes many of the key trappings of the RPG genre, with a protagonist whose capabilities grow with experience, a wide range of non-player characters to chat to, and full inventory options, but combat and exploration are handled in a traditional platform game fashion. Give it a go if you haven't yet played it – with prices hovering around £10, it won't break the bank and you wont regret it.

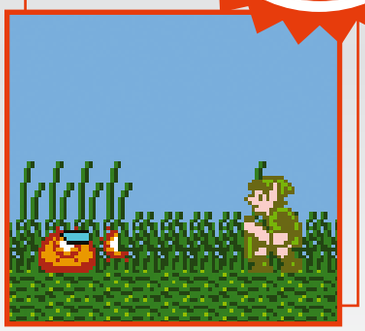
ZELDA II: THE ADVENTURE OF LINK

■ **DEVELOPER:** Nintendo R&D4 ■ **YEAR:** 1987 ■ **GENRE:** Action-RPG

17 **Despite huge sales** of over 4 million copies, the first *Zelda* sequel hasn't always received a huge amount of love over the years. However, lots of you hold the opinion that it is unfairly maligned and we're inclined to agree. *Link's Adventure* retained the first game's top-down viewpoint for overworld exploration, but the meat of the gameplay was found in side-scrolling combat sections. Additional RPG elements were also introduced in *Zelda II*, including experience levels, a magic system and more extensive interaction with the non-player characters you found in towns.

Players have come down hard on *Zelda II* for departing so heavily from the gameplay of the original title, and future 2D *Zelda* games stuck much more closely to the top-down action of the first game. However, it highlights Nintendo's willingness to experiment as a game developer – a commendable quality, even if it doesn't always guarantee popular results.

> "I know people think it's the black sheep of the *Zelda* series, but it should be given a chance 'cos it's a great game."
> SpockIOM



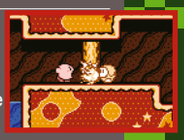
DUCKTALES

DEVELOPER: Capcom
YEAR: 1989 **GENRE:** Platform

15 **Capcom offered an** excellent choice of licensed Disney platformers on the NES, and you guys liked *DuckTales* the most. We love Scrooge McDuck hopping around on his cane, and the structure which requires you to obtain items in various stages to progress is very cool.

KIRBY'S ADVENTURE

DEVELOPER: HAL Laboratory
YEAR: 1993 **GENRE:** Platform



14 **Players that kept** their NES hardware deep into the 16-bit era were rewarded with this incredible platformer. It wasn't the hardest game to complete, but the ability to copy enemy attacks offered a twist on the platform genre which ensured that we remained interested throughout.

SUPER MARIO BROS. 2

DEVELOPER: Nintendo R&D4
YEAR: 1988 **GENRE:** Platform

13 **While this *Mario*** game wasn't always a *Mario* game and feels slightly different as a result of that, the fact remains that it's still an excellently designed platformer. Being able to control Peach and Toad was very cool, and Luigi became distinct from his brother with his floaty jumps.

RC PRO-AM

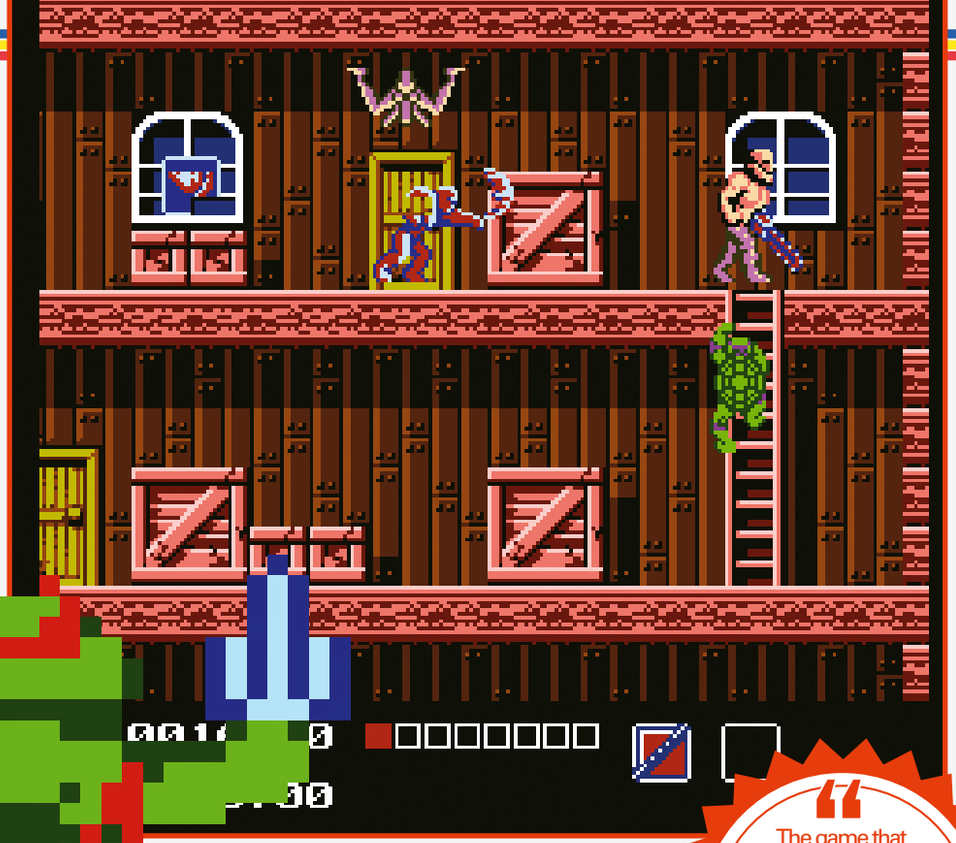
DEVELOPER: Rare
YEAR: 1987 **GENRE:** Racing

12 **This racer** is one of Rare's earliest hits on a Nintendo platform, and features radio-controlled cars battling to take victory across 24 tracks. We mean it when we say battling, too – these little cars pack some firepower, with bombs and missiles available to take out rivals.

MIKE TYSON'S PUNCH-OUT!!

DEVELOPER: Nintendo R&D3
YEAR: 1987 **GENRE:** Fighting

11 **Taking the action** of Nintendo's arcade boxing series and taking it to the home consoles, *Punch-Out!!* knocked players out with memorable characters and compelling mechanics. Best of all, Tyson himself put in an appearance.



TEENAGE MUTANT NINJA TURTLES

DEVELOPER: Konami **YEAR:** 1989 **GENRE:** Platform

10 **If there was** one thing that kids couldn't get enough of in the late Eighties and early Nineties, it was this quartet of pizza-loving crime fighters, and Konami sensibly snapped up the videogame rights early. The result was a brilliant, strong platformer, although one which had the incredible ability to frustrate players – in particular, the infamous underwater bomb disarming stage is one of the most frustrating levels in any videogame ever.

While the game was popular internationally, UK-based Nintendo fans have a particular fondness for the game as its placement in a NES bundle over Christmas 1990 meant that it was the first game many players owned. The presence of the Turtles drove up desire for the NES, and even helped it briefly overtake Master System sales in the UK.

> "The game that made me want a NES. I remember recording the ad for the Turtles box set and watching it every day."
> RodimusPrime

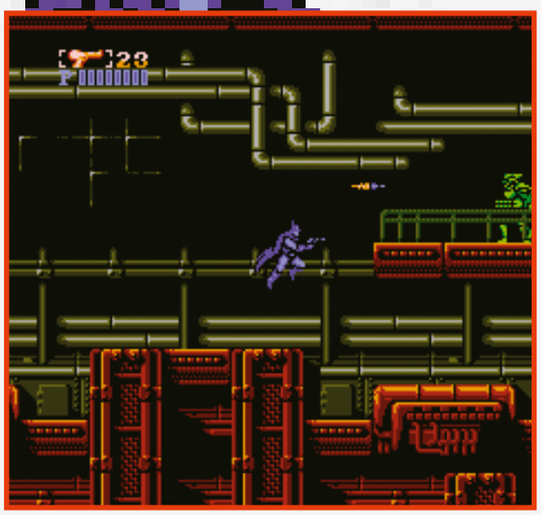
DUCK HUNT

DEVELOPER: Nintendo R&D1
YEAR: 1984 **GENRE:** Lightgun Shoot-'em-up

9 **Packed in with** all but the basic NES console bundles, *Duck Hunt* was a cornerstone of many gamers' NES experiences and was the only Zapper title to make your top 25 list. What makes *Duck Hunt* so memorable is its simple yet captivating gameplay – one or two ducks fly out and you need to shoot them down, ideally with as few misses as possible. There's also the clay pigeon game in Mode C, in which discs fly into the distance.

But let's be honest, it's all about bagging birds – and of course that pesky dog. He certainly adds character, proudly displaying your hits when you make them and mocking you when you fail to do so. Our canine companion's sniggering definitely triggers some of our more violent urges, but try as we might, we can never take out our frustrations on him by just blasting him away. That is true sadness, there.

> "This is a great little game, introducing many a fresh keen-eyed marksman to the joys of the lightgun."
> Jim Bagley, SpecialFX



BATMAN

■ **DEVELOPER:** Sunsoft ■ **YEAR:** 1989 ■ **GENRE:** Platform

8 **The caped crusader** has had a number of videogame incarnations over the years, but few have accompanied a peak interest in Batman like this one, which followed in the wake of the 1989 film starring Michael Keaton. The videogame was themed after the film and took the form of a platformer which allowed you to fight the likes of Killer Moth, Firebug and, of course, the Joker as you sought to clean up Gotham. The game has since achieved recognition on its own terms, with one company even releasing an action figure in NES colours.

While Batman's weaponry was present, one of the coolest features in *Batman* was actually the ability to leap off walls with a secondary jump. Rarely seen at the time, this feature enabled our hero to ascend through narrow vertical passages and save himself from otherwise fatal situations.

METROID

■ **DEVELOPER:** Nintendo ■ **YEAR:** 1986 ■ **GENRE:** Platform

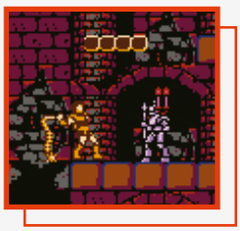
7 **At its heart,** *Metroid* is a simple game – a platform-shooter in which Samus Aran seeks to recapture the dangerous Metroid organisms, set on the planet Zebes. However, it introduced many players to a new style of platform game, in which exploration was key and new abilities enabled access to additional areas. This template is so closely associated with *Metroid* that it co-named the Metroidvania subgenre, along with the *Castlevania* series which later adopted this style.

While the action is all well and good, *Metroid*'s best bits are the memorable twists which stick in the memory long after you've beaten the game. The revelation that Samus Aran is a female protagonist might have lost its shock factor, but its importance remains. As for the other twist – well, don't put your pad down after Mother Brain has been defeated…

CASTLEVANIA

■ **DEVELOPER:** Konami ■ **YEAR:** 1986 ■ **GENRE:** Platform

6 **Konami's developers rarely** seemed more at home than when they were working on the NES, coming up with hits such as *Castlevania*. Borrowing some thematic cues from Capcom's *Ghosts 'n Goblins*, the game casts you as Simon Belmont, a vampire hunter out to kill Dracula. Each stage pits you against all manner of supernatural villains, but is well-designed to fit the crumbling castle theme and offers strong level design. The game is visually strong and offers memorable tunes, while tight control enables precise platforming and offers the use of secondary weapons such as axes and crucifixes, rounding off an excellent package.



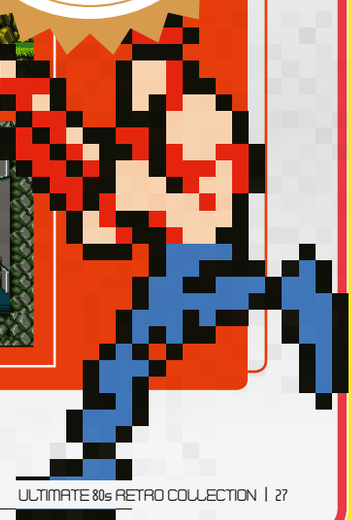
"The controls and gameplay are spot on. Just the right side of difficult and never unfair."
theantmeister

CONTRA / PROBOTECTOR

■ **DEVELOPER:** KONAMI
■ **YEAR:** 1988 ■ **GENRE:** Run-and-gun

5 **This classic run-and-gun** is your favourite arcade conversion for the NES. *Contra* is a great example of Konami at the height of its powers. While the NES version of *Contra* makes a few changes from the coin-op, the game still offers the key things that make it so appealing: frantic action and a very stiff challenge. Though the game was renamed for Europe and censored in order to circumvent German censorship laws, the gameplay shone through.

"Me and my brother would play it and we'd be like 'who's going to be Arnie, who's going to be Stallone?'"
Claudio Sanchez, Coheed and Cambria



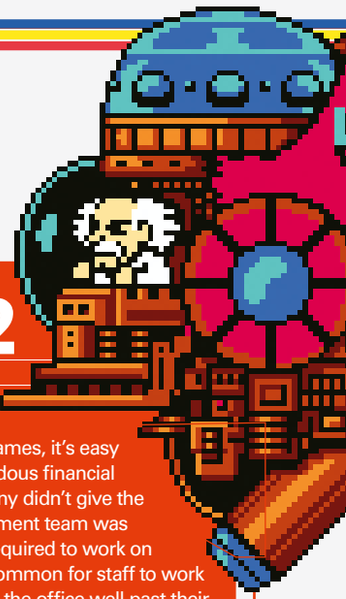
> *The Legend Of Zelda* brought the true power of the role-playing genre to console players and remains today one of the greatest RPGs in history.
>
> Trip Hawkins, EA

THE LEGEND OF ZELDA

■ **DEVELOPER:** Nintendo R&D4 ■ **YEAR:** 1986 ■ **GENRE:** Action-RPG

4 **From the second** you start Link's first adventure and set off towards the cave, the game starts sinking its hooks into you with the most lo-fi rendition of the now-familiar theme music – and just as later *Zelda* games can trace their elaborate scores back to Koji Kondo's chip music, they can do the same with their game design. The original *Legend Of Zelda* exemplifies the excellence of the core *Zelda* formula – a mixture of exploration, puzzles, and combat that draws you into the game until you're determined to see it through to the end. Plus, who doesn't love those beautiful gold cartridges?

> Nigh on perfect controls, great weaponry and a very fair difficulty make this the stand out title for the NES.
>
> ArchaicKoala



MEGA MAN 2

■ **DEVELOPER:** Capcom
■ **YEAR:** 1988 ■ **GENRE:** Platform

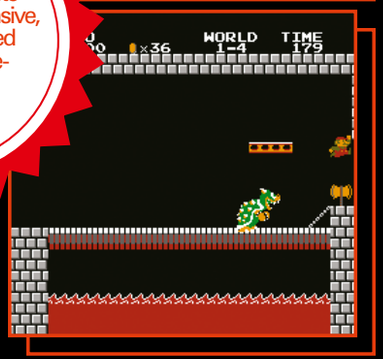
3 **After almost three** decades of *Mega Man* games, it's easy to forget that the first one was not a tremendous financial success for Capcom. As a result, the company didn't give the green light for a sequel immediately – the development team was permitted to work on *Mega Man 2*, but was also required to work on other projects simultaneously. As a result, it was common for staff to work very long hours making the game, often staying in the office well past their regular working hours. *Mega Man 2* was a real labour of love.

For teams developing sequels, it can be tricky to work out what is broken and in need of fixing, and what is better left alone. Capcom trod that fine line carefully and reaped the rewards. Elements that were preserved from the original game include its platform-shooter set up and its non-linear structure, in which a player chooses a stage based on which Robot Master they'd like to take down. As before, once you've downed a boss you'll gain access to their weapon, some of which are more effective than others.

However, it's the improvements which make *Mega Man 2* the best of its series. Not only is it superior to its predecessor, the brutal difficulty level of the first game has been toned down. The game is still no pushover, but its challenge is more likely to cause fun than frustration – which is a good job since the game has eight Robot Masters, up from six in the first game. *Mega Man 2* went on to sales success and established the blue bomber as a star, a richly deserved outcome for one of the best NES games ever.

> Anytime I'm feeling frustrated or depressed, or I'm lamenting the industry, all I have to do is load up *Mega Man 2*. I revert to being eight again, and I can't help but be happy, and smile.
>
> Jaime Griesemer, ex-Bungie, Halo 3 lead designer

> The godfather of platform games – the game that spawned one million imitations. Nintendo have been the most influential game developer of all time setting so many trends and such a high quality bar that we can easily forget the magnitude of their importance.
>
> Jon Hare, Sensible Software



> The original and still a complete classic. Fast, responsive, superbly designed and endlessly re-playable.
>
> nakamura

SUPER MARIO BROS.

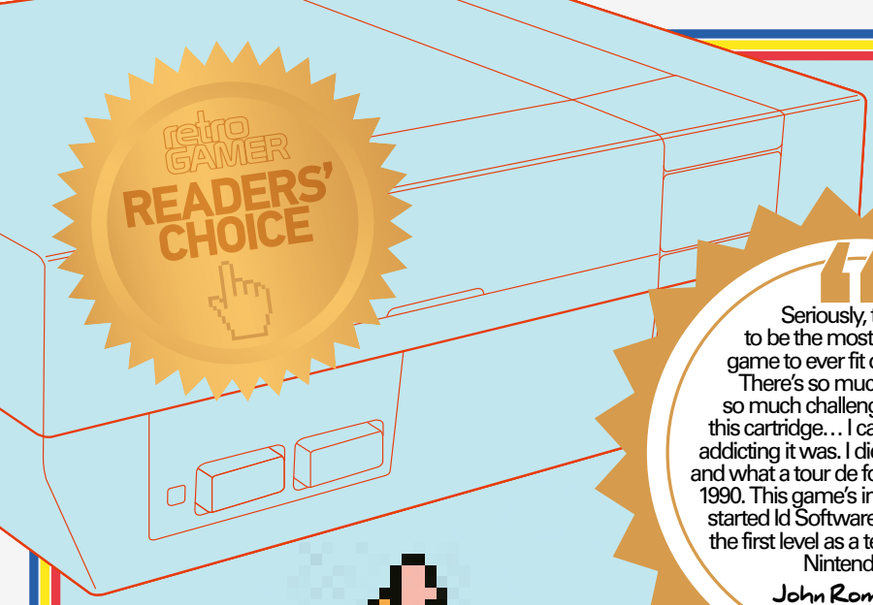
■ **DEVELOPER:** Nintendo R&D4 ■ **YEAR:** 1985 ■ **GENRE:** Platform

We miss the days of pack-in games. During the Eighties and Nineties, console manufacturers often seemed to make a special effort to ensure that every buyer would have at least one excellent game to play – and *Super Mario Bros.* was most definitely an excellent game. While Mario had made his debut in *Donkey Kong* and become a headline name in *Mario Bros.*, it wasn't until *Super Mario Bros.* that he became a real star. Whether it was alone or combined with *Duck Hunt*, *Super Mario Bros.*' long-term status as a pack-in game meant that over 40 million gamers would get to experience this star-making game.

One of the key secrets of *Super Mario Bros.*' success is that the game explains itself very well through level design alone. The initial screens are a masterpiece of game design, as you're wordlessly taught the function of enemies, mushrooms and question blocks. As the first game that many players experienced on a new system – and as the NES introduced so many players to videogames – this ease of learning was absolutely vital.

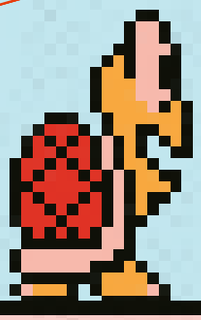
The learning curve also disguised that *Super Mario Bros.* was a complex game for its time, splicing many disparate elements of game design. We'd seen sections that allowed you to skip ahead in *Pitfall!*, power-ups in *Pac-Man* and bosses in *Phoenix*, but all of these combined in *Super Mario Bros.* to make an adventure of a kind never seen before. The variety was aided by the secrets that the game offered, from hidden items to warp zones, and difficulty was perfectly pitched to ensure while *Super Mario Bros.* posed enough challenge to last, but was no ordeal. Games that complement consoles this well are exceedingly rare.

> To me *Super Mario Bros.* original for NES is the definitive *Super Mario* platformer. Not only did it set a new benchmark for platformers, it also had an awesome soundtrack.
>
> Jim Bagley, SpecialFX



retro GAMER READERS' CHOICE

> Seriously, this has to be the most impressive game to ever fit on a cartridge. There's so much gameplay, so much challenge packed into this cartridge… I can't tell you how addicting it was. I did finish the game and what a tour de force it was back in 1990. This game's inspiration is what started Id Software – we replicated the first level as a test and sent it to Nintendo!
>
> John Romero, id Software

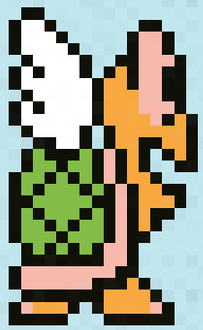


> An astounding sequel – so much so that the later games have to be considered evolutionary after this revolutionary leap.
>
> ArchaicKoala

5 reasons why it's great

1. Items like the Super Leaf gave Mario new abilities such as flight, enabling new level designs.
2. It offers a huge amount of content, with dozens of stages for players to tackle and master.
3. Even the level selection screen exudes character, thanks to its framing as an animated map.
4. If there's a argument against hopping around in a shoe, we have never heard it.
5. It perfected the *Mario* model, providing the template for every 2D *Mario* adventure since.

> Remains for me the pinnacle of 2D platform gaming. Imaginative, infuriating, wonderful, frustrating, joyful, tearful and ultimately entirely rewarding and magical. I kept the NES on for a week to prevent loss of progress.
>
> Gregg Mayles, Rare

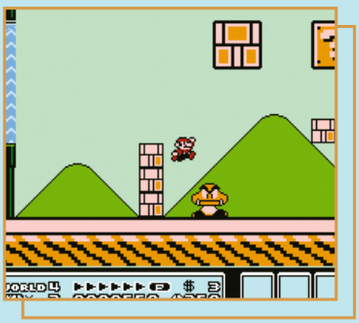


SUPER MARIO BROS. 3

■ **DEVELOPER:** Nintendo R&D4 ■ **YEAR:** 1988 ■ **GENRE:** Platform

For Nintendo R&D4, developing *Super Mario Bros. 3* must have been a tough task. It would have been absurd to expect the development team to take an already-beloved classic and improve upon it in every single aspect. It is to the credit of Shigeru Miyamoto and his team that they didn't just attempt it, but managed to succeed in doing so.

The Japanese version of *Super Mario Bros. 2* (known internationally as *The Lost Levels*) had been a very small upgrade over its predecessor, with slightly improved visuals and a few new hazards (such as the Poision Mushroom), and primarily offered more challenging stages for players that had mastered the original game. Contrast this with *Super Mario Bros. 3*, which offered all-new visuals, new music with additional sound effects, a variety of new enemy types, new power-ups, new blocks – if you could name something in the original *Super Mario Bros.*, Nintendo had managed to identify and implement a fantastic new spin on it in their new game.

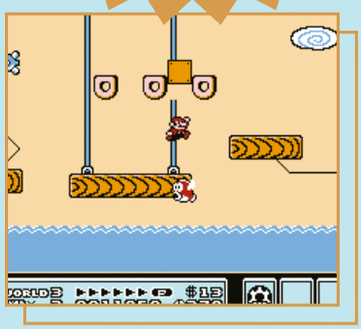


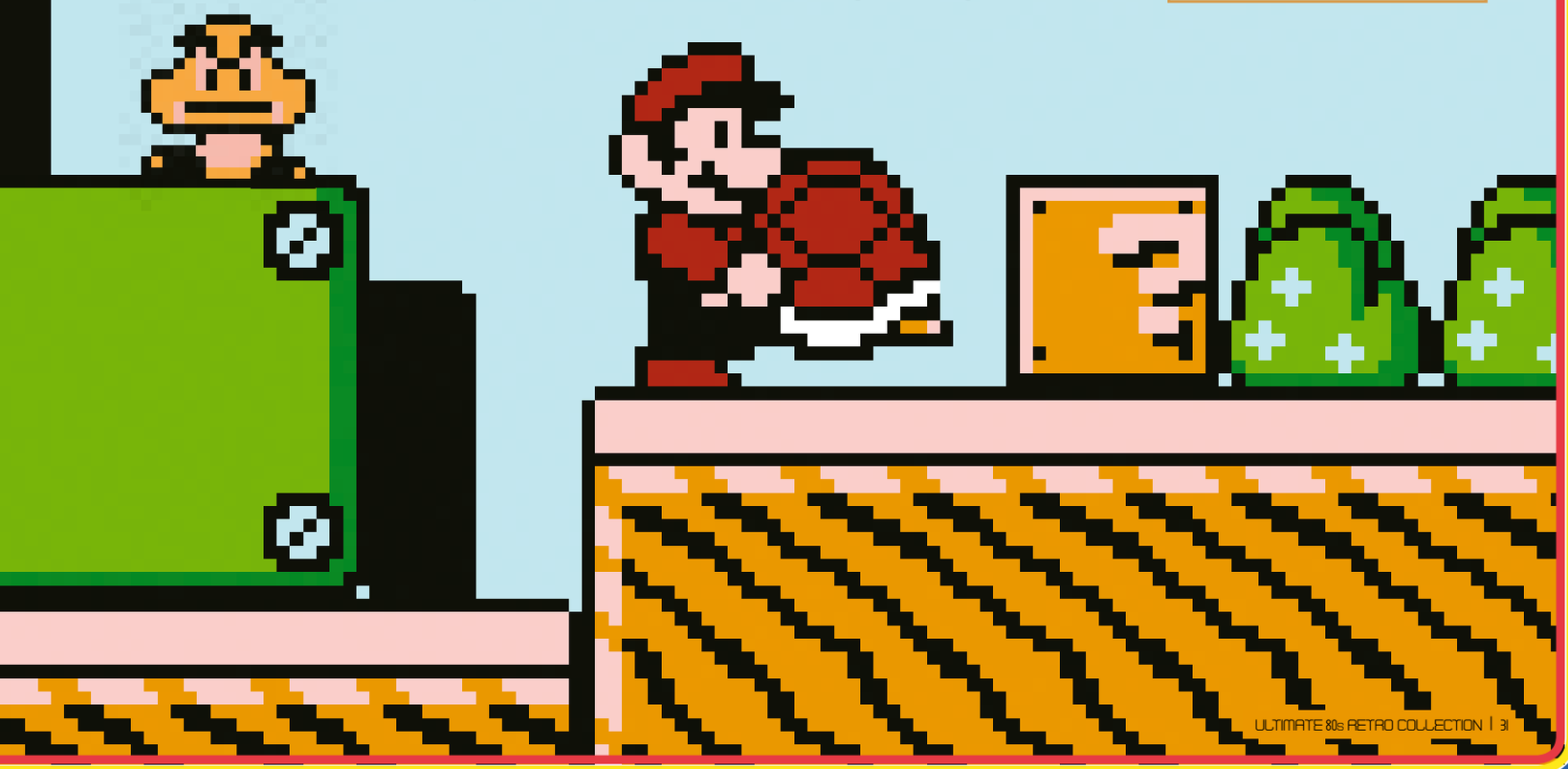
These new elements allowed for some incredibly clever level designs too, from the floating platform challenge of stage 1-4 to the complex cannon arrangements of the airship levels. Many stages take new mechanics, implement them in every way you can think of, and then add a few you had missed just for good measure. Even something as simple as the introduction of sloped surfaces allowed for a new move and new opportunities for fun, as Mario could slide downhill on his backside and take out enemies with his momentum alone. What is truly amazing is that the high quality, inventive level designs are so consistent, given how numerous they are – the game's eight worlds feature an astonishing 90 stages.

With the American audience whipped into fever pitch by pre-release footage in the movie *The Wizard*, *Super Mario Bros. 3* was always going to do well. Even so, the game was an unprecedented commercial success, becoming the best-selling non-bundled NES game – and along with its predecessor, one of only two such games to exceed the 10 million mark. The game has been ported and remade often and continues to perform remarkably, selling over 3 million copies when remade for the Game Boy Advance, and another million as a Virtual Console game on the Wii.

Super Mario Bros. 3 is a game that contains just about everything that a fan of platform games could want. If you want a game with tight, responsive control, that's covered. If you want variety, the game offers dozens of levels, many enemies and an array of interesting power-ups. If you want clean, attractive visuals and timeless tunes, this classic beast of a game has them. If there is such a thing as a perfect videogame, *Super Mario Bros. 3* is the closest that the NES ever got to delivering it.

> "In 1991 as a birthday treat my Dad took me to the World Of Commodore show and offered to buy anything I wanted. We left empty handed and instead bought *Super Mario Bros. 3*."
>
> Steve Lycett, Sumo Digital





THE MAKING OF

DOUBLE DRAGON

双截龍

It's the most iconic beat-'em-up of all time and spawned the most famous videogame siblings after the Marios. Stuart Hunt was honoured to study the story of Double Dragon under the tutelage of its legendary creator: Yoshihisa Kishimoto

Arcade games are always best played together. From *Pong* to *Bubble Bobble*, the most popular coin-op games in history have allowed friends – or sociable strangers – to insert their cash, grab the controls and work with or against each other until the coffers vanish or the closing credits roll. Multiplayer didn't just bring a feeling of camaraderie or a stronger sense of competition, but it also changed the atmosphere inside the virtual playground. For a perfect example of this, you need only look to *Double Dragon*. Played alone, it was a robust beat-'em-up boasting detailed visuals and plenty of variety, but when played with a second player its brilliance really shone.

As most beat-'em-up aficionados are probably aware, *Double Dragon*'s roots can be traced back to Technos Japan's earlier arcade brawler, *Nekketsu Koha Kunio-Kun* (*Renegade* in the West). However, *Double Dragon*'s relationship with the seminal scrolling fighter runs deeper than simply being its technical successor. When the feuding Japanese high school delinquents and comic schoolyards of *Kunio-Kun* were replaced with leather-clad gang members and glum city streets to make it more marketable in the US, Techno Japan's bosses quickly realised this reskinning process was both time-consuming and costly, and come sequel time a different approach would be needed. Ultimately, it was this that served as the trigger for *Double Dragon*.

"*Kunio-Kun* was firstly for the Japanese market only," explains Yoshihisa Kishimoto, the creator of *Kunio-Kun* and *Double Dragon*. "But when we decided to export it, we had to spend a lot of time creating new characters and backgrounds, and for Technos Japan it was a very big waste of time and money. So after *Renegade*, when my boss, Kunio Taki, saw I was working on *Kunio-Kun 2*, he told me he wanted me to create a game that would be accepted worldwide. So the concept of the initial *Kunio-Kun 2* became *Double Dragon*. The two-player cooperative gameplay was an idea from our marketing department. It's fun to play together – to help each other to beat the game – and it also allowed game centres to potentially double their incomes."

IN THE KNOW

- **» PUBLISHER:** TAITO CORPORATION
- **» DEVELOPER:** TECHNOS JAPAN
- **» RELEASED:** 1987
- **» PLATFORM:** ARCADE
- **» GENRE:** BEAT-'EM-UP

» [Above] Kishimoto, seen here in black, admits he was a bit of a delinquent as a teenager, and this had a big influence on his games.

» [Right] Florent Gorges, author of *The History Of Nintendo* books, recently released a comprehensive book detailing the life and games of Kishimoto.

» A rare picture of the *Double Dragon* staff. Kishimoto is standing in the centre.

» [Arcade] The famous red sports car in the garage is actually the car from *Road Blaster* (aka *Road Avenger*), on which Kishimoto worked as director.

» [Arcade] Poor Marian gets slugged in the stomach and carried off by the Black Warriors. Violent stuff in 1987.

With the *Kunio-Kun* follow-up to feature cooperative gameplay and aesthetics with worldwide appeal, Kishimoto decided to move away from the established franchise. Looking for a new direction, he found inspiration in the biggest martial arts actor of all time: "When I was a child, I saw the Bruce Lee movie *Enter The Dragon*. I became his biggest fan. He made the most incredible action movies in the world. And I wanted to become like him, and create the most incredible action games in the world. So, because Bruce is a worldwide famous actor, he inspired me for my new game. It's like an homage, you know? His nickname is 'little dragon', right? And because the concept of *Kunio-Kun 2* was a two-player game, I decided to create the 'Lee brothers' and call my game *Double Dragon*."

With a new title and new heroes, *Double Dragon* would naturally have to tell its own story. For this Kishimoto used the familiar damsel-in-distress scenario. However, rather than forgettable street punks, *Double Dragon*'s antagonists were far more characteristic. Dubbed the Black Warriors and headed by a machine-gun-wielding bad guy called Willy, its members comprised a small but memorable bunch that included whip-carrying Linda, henchmen Williams and Roper, and hulking great man-monster Abobo. Setting the scene brilliantly, the Black Warriors also showed a capacity for violence through a memorable in-game introduction that showed them visiting the Lee brothers' turf, slugging their girlfriend Marian square in the stomach, and then carrying her off to their hideout.

While gang numbers were massaged using economical palette swaps, this could be forgiven because of the quality of *Double Dragon*'s sprite designs and graphics. *Double Dragon* was a clear visual step up from *Kunio-Kun*; its levels looked more vibrant and detailed, and were decorated with nice touches and details that really brought its world to life.

"There are a lot of funny details in *Double Dragon*," muses Kishimoto. "For example, did you notice the red car in the first screen of the game inside the garage? It's the car from my first LaserDisc game, *Road Blaster*."

As well as an attention-grabbing introduction, *Double Dragon* ended in style, with a memorable twist ending if the game was played cooperatively. It saw Billy and Jimmy forced to turn on each

» [Arcade] Before working for Technos Japan, Kishimoto cut his teeth at Data East.

» [Arcade] *Double Dragon* and *Road Avenger* both share revenge-themed plots.

» [Arcade] *Cobra Command* and *Road Avenger* received home ports on Mega-CD.

DEVELOPER HIGHLIGHTS

RIVER CITY RANSOM
(PICTURED)
SYSTEMS: NES
YEAR: 1989

WWF SUPERSTARS
SYSTEMS: ARCADE
YEAR: 1989

THE COMBATRIBES
SYSTEMS: ARCADE, SUPER NES
YEAR: 1990

other for one final fight to win Marian's love after beating Willy. "Well, at first, we had the idea of collaborative gameplay for two players," Kishimoto explains. "So, playing *Double Dragon* with a friend was like a fight between human players against a computer. But when you reach the last stage and defeat the last boss, tough guys have to think: 'Okay, we were stronger than this machine, but now we have to know who is the best between us!' And to know the real winner of the game, we had to make them fight each other. I also wanted the game to have an unexpected ending. It was, I think, a nice idea."

> It was the first beat-'em-up with multi-screen-length scrolling, so it was difficult to establish what was best for that

In addition to its innovative cooperative gameplay, *Double Dragon* introduced a number of other ideas that became staples of the genre throughout the next decade. Chief among them was the fact that the Lee brothers could pick up and use an assortment of different melee weapons to biff their enemies, from whips and baseball bats to steel pipes and even sticks of dynamite.

"At the end of the development of *Kunio-Kun*, I noticed a funny graphic detail on the screen: when you hit a guy with a weapon and he falls down, his weapon is on the floor, next to the enemy," says Kishimoto. "One day I just said to myself: 'Hey, wouldn't it be fun if the player could take that weapon and use it against the enemies?' But because I was too late to program such a new gameplay feature, I decided to use it for *Kunio-Kun 2*."

Add to the weapons a variety of fighting moves, including hair pulls, elbow strikes and flying kicks, and *Double Dragon* boasted one of the most robust combat systems of any fighting game of the time; one made all the more satisfying by the fact that one player could grab and restrain an enemy while another joined in and gave the struggling thug a good pasting.

One other impressive aspect of *Double Dragon* was its stages. While the fighting environments in *Kunio-Kun* stretched just two screens and didn't scroll constantly, Kishimoto desired for *Double Dragon* to play out in a more elaborate environment. On reflection, this proved to be another design masterstroke, as the gradually changing backdrops and interactive hotspots, from climbable ladders to deadly conveyor belts, heightened the action and kept *Double Dragon* feeling continually rewarding. Uniquely, each of *Double Dragon*'s four stages segued into the next, and took the form of one gigantic level. It comprised four distinct areas made up of a street, factory, woodland and finally the gang's hideout, with each section punctuated by a boss fight. Never did the camera cut from the brothers and pull gamers from the world. However, settling on the best way for Billy and Jimmy to progress proved to be one of the biggest challenges for Kishimoto and his team.

"*Double Dragon* was the first beat-'em-up with real multi-screen-length scrolling," says Kishimoto, "so it was difficult to establish what was best for that. Forced scrolling? Free scrolling? For example, if we used free scrolling then the user would be able to walk directly to the end of the stage without fighting. But because the positions of the enemies are scripted, they appear when you reach certain points. So, if the user doesn't fight, all the enemies will appear on the screen and follow Jimmy and Billy. There will then be too

» [Spectrum] Dean Swain's long-gestating Spectrum remake of *Double Dragon* is close to completion. It's looking mighty fine as well.

» [Arcade] Following Willy's defeat, the Lee brothers are forced to fight to prove who is worthy of saving Marian.

» [Arcade] The concept of having usable weapons picked up from fallen foes was an idea Kishimoto had during the production of *Kunio-Kun / Renegade*.

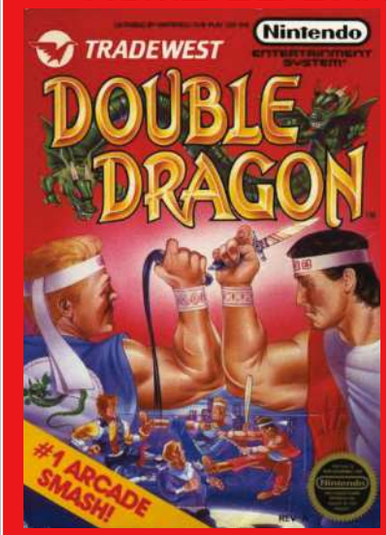
many sprites on the screen and it will make the game freeze. Today, *Double Dragon*'s concept and scrolling looks very natural, but at that time it was a pioneering idea. It took time to make those technical settings look as natural as possible."

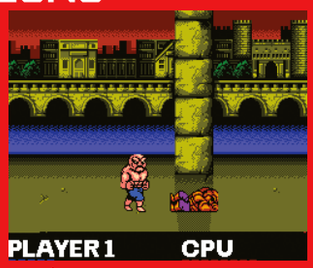
Of course, with *Double Dragon* containing so much innovation, invariably something had to give. That something was the speed, with *Double Dragon* suffering from notorious bouts of slowdown whenever its action got too heavy. Kishimoto is keen to explain the reason why this occurred: "The point I want to mention is that our game was too big for our hardware. That's why the game often gets very slow. I wanted to input so many things, but because of those limitations it just wasn't possible. People don't know this, but to tell you the truth there were about a dozen *Double Dragon* versions. The first one was full of bugs. It took our programmer about one year and more than ten new updates before we could get to a completely debugged version!"

Following those various revisions and lengthy debugging process, *Double Dragon* was finally released into arcades in 1987, and quickly it garnered praise and fans. Despite the slowdown, players were won over by its ambition, charm and visuals, and showed their enjoyment by flocking to arcades to give it their loose change. And with videogames and martial arts films both enjoying popularity in America in the Eighties, Technos couldn't have timed *Double Dragon*'s release better. In fact, 1987 was a pretty fantastic year for videogaming, with the release of *Mega Man*, *Maniac Mansion*, *Metal Gear*, *Final Fantasy* and *Street Fighter*. Of all those classic games released, though, we would argue that *Double Dragon* was the biggest success story that year. It is seen as *the* defining beat-'em-up of the Eighties, and become one of the most recognisable arcade games of all time. So did Kishimoto have any inkling at all that the game would go on to be the phenomenon it was?

"Well, I wouldn't be honest if I said I never imagined it would

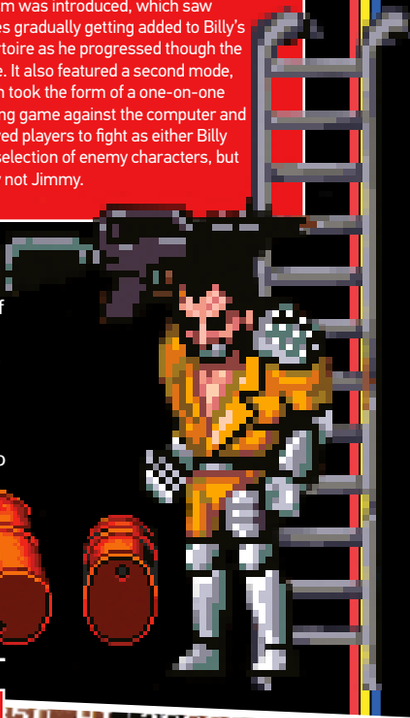
HOME BE DRAGONS Porting the Lee twins





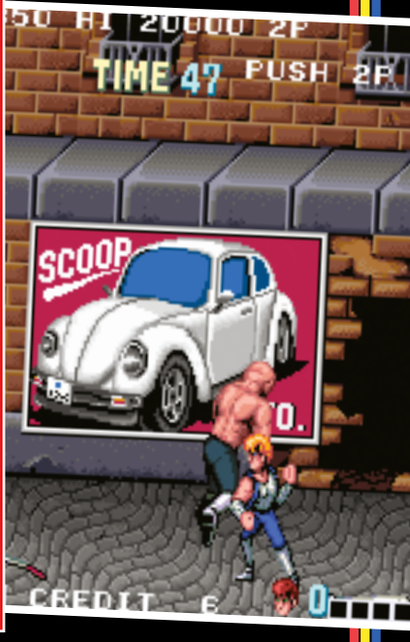
DOUBLE DRAGON'S POPULARITY led to a large number of home conversions, from the humble Atari 2600 to late appearances on the Mega Drive and Atari Lynx. Of all the ports released, Kishimoto was only involved in the NES conversion, which differed in a number of ways from the arcade original.

Cooperative multiplayer was dropped, with players instead having to take it in turns to control Billy while Jimmy was forced to play the role of final boss once Willy was defeated. The level designs were also different, and a levelling system was introduced, which saw moves gradually getting added to Billy's repertoire as he progressed though the game. It also featured a second mode, which took the form of a one-on-one fighting game against the computer and allowed players to fight as either Billy or a selection of enemy characters, but oddly not Jimmy.



KICKING MERCHANDISE

DOUBLE DRAGON MANIA would spin off a whole bunch of promotional merchandise, from T-shirts and embroidered badges to a board game from Tiger Electronics, a Marvel comic book series, and later even an animated TV series. Loosely based on the story of the NES game – Jimmy was separated from his brother at birth and trained up by the Black Warriors – the show produced even more merchandise, including a range of *Double Dragon* action figures, and also provided the seed for a terrible live-action movie released in 1994. Starring Scott Wolf and Mark Dacascos as the Lee brothers and *Terminator 2*'s Robert Patrick as the Shadow Boss, it's a poor and rightly mocked adaptation of the *Double Dragon* videogame, as it turns the cool and edgy arcade game into something that makes *3 Ninjas: High Noon At Mega Mountain* feel like *Lone Wolf And Cub*. It's so terrible that it almost – and we emphasise the 'almost' – makes you question the badness of the famously terrible *Street Fighter* movie released the same year.



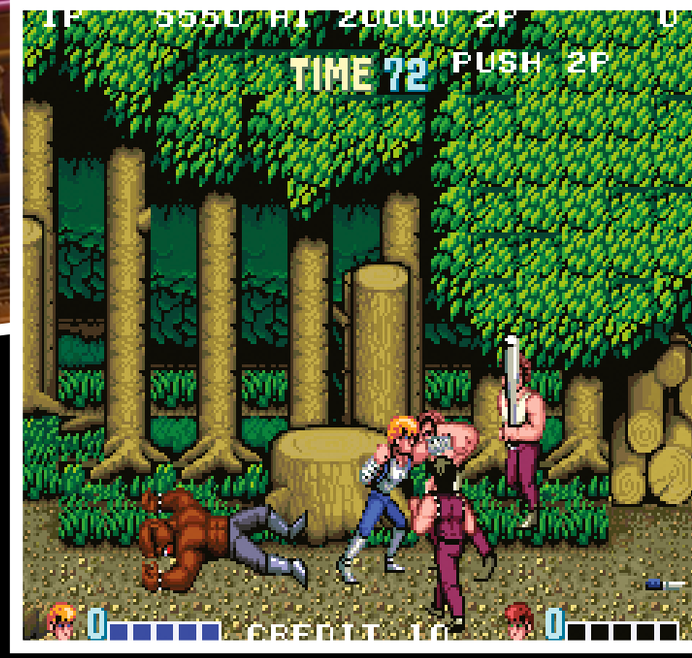
» [Arcade] The young kid engrossed in a game of *Renegade* is completely unaware that the man stood behind him is the game's creator.

» [Xbox 360] Wayforward Technologies is attempted to revitalise the franchise in 2012 with the release of *Double Dragon Neon*.

become a hit," he responds. "Since the first days of the concept, I knew it would be wonderful, but I didn't imagine it would become as big a hit as it did. My real wish was to give users the best action game in the world. So we worked very hard to reach that goal."

Following its success, Technos released a *Double Dragon* sequel the following year. *Double Dragon II: The Revenge* saw the Black Warriors and Lee brothers continue their violent quarrel, and Kishimoto remain seated in the director's chair. The sequel once again featured an attention-grabbing opener, which showed Marian getting mercilessly gunned down by the gang. This set a darker tone for the second instalment, as the Lee brothers set out on a quest for vengeance. Also like the original, the mission was spread across four distinct areas, connected with no visible join, and closed with a surprise ending: the brothers forced to fight shadowy copies of themselves. The visuals benefited from a nice makeover – the colours looked more vibrant, the animations were smoother and the sprites more detailed – and the controls also received a tweak. This time Technos used a *Renegade*-style direction-based attack configuration that had a button for attacking left and another for attacking right, which was complemented by a range of new moves and weapons.

Technos released *Double Dragon 3: The Rosetta Stone* in 1990. It looked distinctly different from the previous two titles, and many beat-'em-up fans remarked that it looked and played more like *The Combatribes*, a separate scrolling fighter from Technos Japan released the same year, which was produced by Kishimoto. *Double Dragon 3* supported up to three-player co-op and introduced new hero Sonny, a yellow version of Billy and Jimmy, which sort of implies that the Lee twins are actually triplets. In addition to this, players could purchase new moves and playable characters by visiting item shops and spending credits. Unfortunately, *Double Dragon 3* wasn't as well received by fans, and it wasn't helped by Capcom releasing *Final Fight* in the same year. Therefore, it is seen by many as the point at which Technos was forced to hand over its beat-'em-up crown.



» [Arcade] Pushing its tech to the limit, *Double Dragon* suffered from slowdown whenever its action got busy.

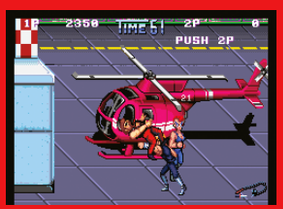
> Double Dragon is a photograph of Eighties pop culture. And, of course, it was innovative and incredibly fun

THE OCTUPLE DRAGONS

Our complete rundown of the entire Double Dragon series

Double Dragon (1987)

THE SEMINAL brawler started life as a direct sequel to *Kunio-Kun* (*Renegade*), before Technos Japan bosses intervened. Introducing the world to twin brothers Billy and Jimmy Lee, it was notable for its cooperative gameplay, usable melee weapons and elaborate stages.



Double Dragon II: The Revenge (1988)

THE BROTHERS were out for vengeance following the murder of Marian at the hands of Big Boss Willy. The sequel made improvements to the graphics, animations and enemy AI. It's a fantastic game, regarded by many as the best in the series.

Double Dragon 3: The Rosetta Stone (1990)

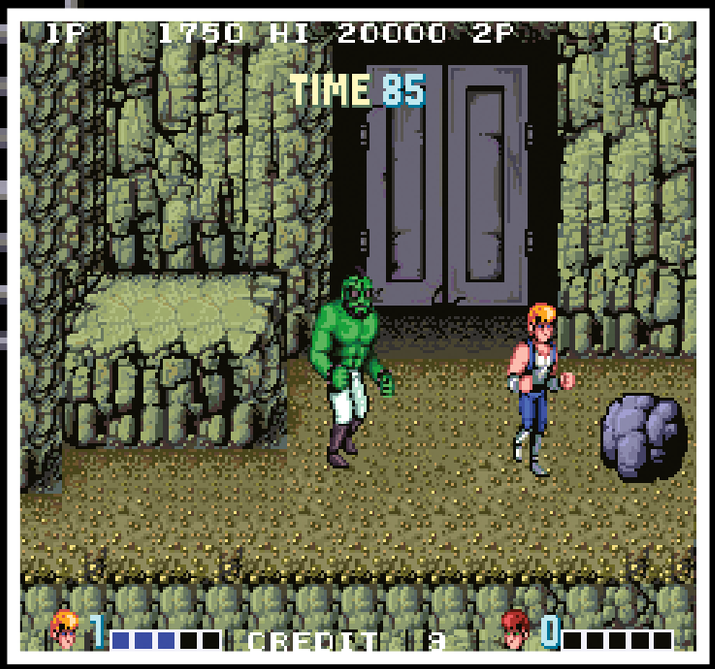
DOUBLE DRAGON 3 varied a lot from its predecessors. It featured three-player co-op, and introduced new playable characters. Aesthetically it shares more resemblance with *The Combatribes*, which was released by Technos Japan the same year.

Super Double Dragon (1992)

SUPER DOUBLE Dragon was a Super Nintendo exclusive, and can be looked upon as a reboot of sorts: Marian is kidnapped by new villain Duke, and the brothers must rescue her over seven new stages. It's a decent sequel with some great visuals and animation.

Battletoads & Double Dragon: The Ultimate Team (1993)

MORE *BATTLETOADS* than *Double Dragon*, though still a decent crossover, Jimmy and Billy teamed up with Rare's ninja toads to deliver a rollicking good brawler for the ageing NES. It was also released for the Game Boy, SNES and Mega Drive.



» [Arcade] *Double Dragon* spawned a raft of promotional merchandise, an animated TV show and a live action movie.

» [Arcade] Owing to its popularity, *Double Dragon* received plenty of home ports – some were good, but most were disappointing.

Despite this, and the closure of Technos Japan in 1996, the *Double Dragon* franchise endured. A further six games were released in the series, and it also spawned an animated show and a much-despised live-action movie. Kishimoto, meanwhile, left Technos Japan in the Nineties to work as a freelancer, trading under the alias of Plophet. During his career, which spans 30 years, Kishimoto has worked on more than 350 games. Today he can be found at Plophet Co., Ltd, a company he founded in 2011. His latest development is an iOS and Android game titled *ViER*, which is currently available to purchase from the App Store and Android Market. It's a board game that sees players competing to make blocks of vier ('four' in German) tiles and is a long way from the mean streets of *Double Dragon* and *Kunio-Kun*.

If you grew up playing games in the Eighties, you will be fully aware of *Double Dragon*'s impact. It was one of those extraordinary games you simply could not escape. And yet despite being very much a game of its time, its status and popularity holds to this day – recently news broke that WayForward Technologies is going to be working on a brand new *Double Dragon* sequel for XBLA and PSN, which will coincide with its 25th anniversary.

Double Dragon will always remain a game synonymous with the Eighties and amusement arcades, and it is for this reason that it holds a lot of nostalgia with gamers. To close, Kishimoto shares with us his personal thoughts on why Billy and Jimmy Lee's plight has resonated with gamers for such a long time.

"*Double Dragon* is like an ambassador for a decade: the Eighties. Kung fu, street fighting, dragons, Bruce Lee, dark action movies... *Double Dragon* is a photograph of Eighties pop culture. And, of course, it was innovative and incredibly fun."

Special thanks to Double Dragon Dojo, and to Florent Gorges for their help and images found in this article. If you are able to read French then for more information about Mr Kishimoto check out Florent's book, *The Great Names Of The Video Game Industry #4: Yoshihisa Kishimoto, Enter The Double Dragon*

» [PC] Kishimoto served as director for *Double Dragon IV*, published by Arc System Works in 2017.

Double Dragon V: The Shadow Falls (1994)

THE SHADOW Falls, based on the *Double Dragon* animated TV series, was clearly released to capture the popularity of the one-on-one fighting genre repopularised by *Street Fighter II*. By this point, Tradewest owned the *Double Dragon* licence.

Double Dragon (1995)

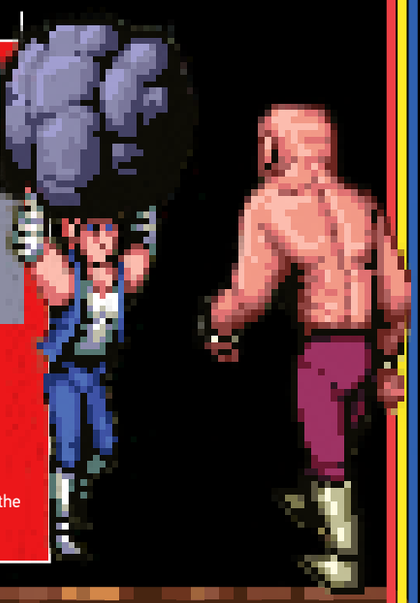
ANOTHER VERSUS fighter, but this one is based on the terrible live action movie with a helping of fighters from the games. Pleasantly, it's a decent instalment. However, being released for the Neo Geo, it had a tough time standing out from the plethora of quality brawlers on the machine.

Rage Of The Dragons (2002)

ANOTHER ONE-ON-ONE effort, *Rise Of The Dragons* has a visual style that instantly calls to mind the excellent *Garou: Mark Of The Wolves*. It was developed by Evoga, an independent developer, and, as its title hints, has only a subtle connection to the *Double Dragon* universe.

Double Dragon Advance (2003)

THIS IS a splendid enhanced port of the arcade original, developed by Million, a successor to Technos Japan. It makes a number of nice changes to the original game, including redrawn sprites, cut-scenes, no slowdown, and double the number of stages.



30 YEARS OF ROBOTRON

"The human race is inefficient and therefore must be destroyed." Ten words that kicked off the cult of Robotron. Along with some of the new wave of game designers who helped revitalise the twin-stick shooter for the modern age, Mike Bevan explores the enduring appeal of Eugene Jarvis and Larry DeMar's arcade masterpiece

FROM THE retro GAMER ARCHIVES

ROBO LOVE

JOHN ROMERO (DOOM)

"At the start of the Eighties, back when arcades ruled supreme, games were *fast*. Quarters went into these games *fast*. It was a real challenge to be able to play an arcade game past five minutes on one quarter. And the games were made for quick reflexes and fast thinking. Of all the games that ruled the arcades, *Robotron* was the most manic, complex and pulse-pounding experience that anyone had encountered. Two joysticks, moving and firing in any of eight directions independently, assumed that anyone good at the game was a real master. Eugene Jarvis had created the ultimate arcade game."

Robotron. Its very name can send even the most battle-hardened arcade fan into a volley of nervous spasms and involuntary muscle twitches. An unrelenting barrage of digital cybernetic hostility in a single black screen, this savage blaster chewed up players and their coinage as if there was no tomorrow, which was rather apt considering the game's apocalyptic storyline. Yet despite its unyielding nature, *Robotron* remains highly regarded among retro gamers and developers alike, something that's evident from **RG**'s Desert Island Disks feature over the years – it's still the foremost requested game among our castaway list of veteran designers.

Created by Eugene Jarvis and Larry DeMar, *Robotron* was the third videogame the pair designed for Williams Electronics, following the equally well-received pairing of *Defender* and *Stargate*. It's a nightmarishly dystopian vision, as the encircling robotic horde hunts the last surviving human family, seeking the rapid demise of our goggle-eyed hero. "The game was inspired by a number of influences," recalls Eugene. "First off, I loved Al McNeil's robot killer game *Berzerk*. The great sounds and primal kill-or-be-killed action were a huge rush. But I became frustrated by the single-joystick control. I wanted to make a game with significantly more firepower. I was also inspired by the early Commodore PET game *Chase*, which used 24x80 line text-based graphics, where the player tried to run away from enemies while luring them into a minefield to their death. Throw in elements from *Defender* and *Pac-Man* and you've got a lot of the gameplay.

"We started with the game engine from *Defender*/*Stargate*. I concentrated on the character/projectile behaviour, level design and game mechanic, while Larry basically did everything else, including all the mind-blowing special effects. To move the pixels, Larry and I specced out what we called the *Robotron* graphics DMA chip, which may have been the first graphics co-processor for a colour bitmapped system capable of rendering arbitrary-sized programmable 2D images. The DMA chip made possible all the amazing explosion and particle effects in the game, as well as powering the gluttonous pixel rate."

Notwithstanding the game's splendid presentation and masterful use of colour and sound, it's the now-familiar twin-joystick control system that's *Robotron*'s crowning glory. With the first stick to move the player character and a second to guide an unending stream of bullets, it's far easier to get to grips with than *Defender*'s complex controls. *Robotron* wasn't the first videogame to use it, but it was arguably the first shooter that needed dual-stick controls as a conscious design choice. So was there a 'eureka!' moment when Eugene wired up that second stick for the first time?

"Totally," Eugene grins. "I started with one-joystick control, where you would just try to lure the robots into electrodes like the *Chase* game. And it was fun – for about five seconds. Then I realised you have to kill shit. Once I wired up the second 2600 stick for firing and screwed it to the control panel, I knew I was on the right track." Eugene's experience as a sound engineer on Williams' pinball games came in handy at this point. "I used the old ball-lock sound with echo decay from *Firepower* for firing, and I threw in a *Defender* explosion for a robot hit, and I started feeling the tension and release. Then when I dialled up the robot count to 128, the adrenal cortex overload was complete. Within moments, I was a sweating, gasping mass of smoking neurons…"

The fact that *Robotron*'s action takes place in a claustrophobic single-screen arena sets it apart from the pair's previous games, and helps ramp up the tension to coronary-inducing levels. "Where the cool thing about *Defender* was the freedom to fly beyond the single-screen space into an entire planetary world, *Robotron* was all about the tension of confinement," Eugene muses. "There was no escape from the confrontation, no fight or flight, only fight or fight."

One small ray of hope among the overall nihilism of the game is the ability to save members of the last human family: Mommy, Daddy and little Mikey. Quick reflexes can save them from electrification by Hulks or reprogramming by roaming Progs into cybernetic zombies. "This 'family' has direct parallels with the *Defender* astronauts," says Eugene. "I felt strongly that a game has to be about more than just killing – first from a play mechanic perspective. If everything is just a shoot-kill then the game gets old and stale quick. Spicing it up with a rescue dynamic enriched the game and added a lot of variety to play."

As for the game's renowned difficulty, Eugene is unrepentant, revealing that it could have been even more evil. "In the Eighties, the arcade scene was dominated by hardcore

ROBO LOVE

MARK TURMELL (SMASH TV)

"*Robotron* is the greatest game of all time. It's why I joined Williams/Bally/Midway and created *Smash TV*. I went there to revive the dual-joystick mechanic. Eugene is still a good friend of mine, and I learned many lessons from him that I use to this day."

players, the type that would be playing *Call Of Duty* and other FPS games today," he reflects. "*Robotron* actually went out even harder at first, but it was just too brutal. The controls required independent motion of both hands, which was very new, and even today many players can't walk and chew gum at the same time. We had to lighten up the game."

We can only imagine what sort of state our wrists and synapses would have been in if he hadn't. Interestingly, it seems that if you were left-handed, you might have had a small advantage. "Observing cigarette burns on control panels, I could tell that *Robotron* had about a 50/50 mix of right- and left-handed players, which is very unusual since lefties make up only 10-15 per cent of the population," he remarks. "Because lefties have to adapt to a right-handed world, they are more ambidextrous than righties. Hence they make better *Robotron* players!"

Welcome to the Pleasure Dome

"When *Robotron* came out, I felt that the twin-stick control would rapidly dominate the industry," Eugene reveals. "But surprisingly few titles came out – probably due to the hardcore nature of the interface and the rising dominance of casual players. A big problem was the standard single joystick or joypad in consoles such as NES and Atari 2600. The ubiquitous single-stick paradigm effectively locked the twin-stick genre out of the consumer space. Most of the ports suffered from lack of dual joysticks, hardware performance, or if there were two joysticks, how do you nail them down to the coffee table?"

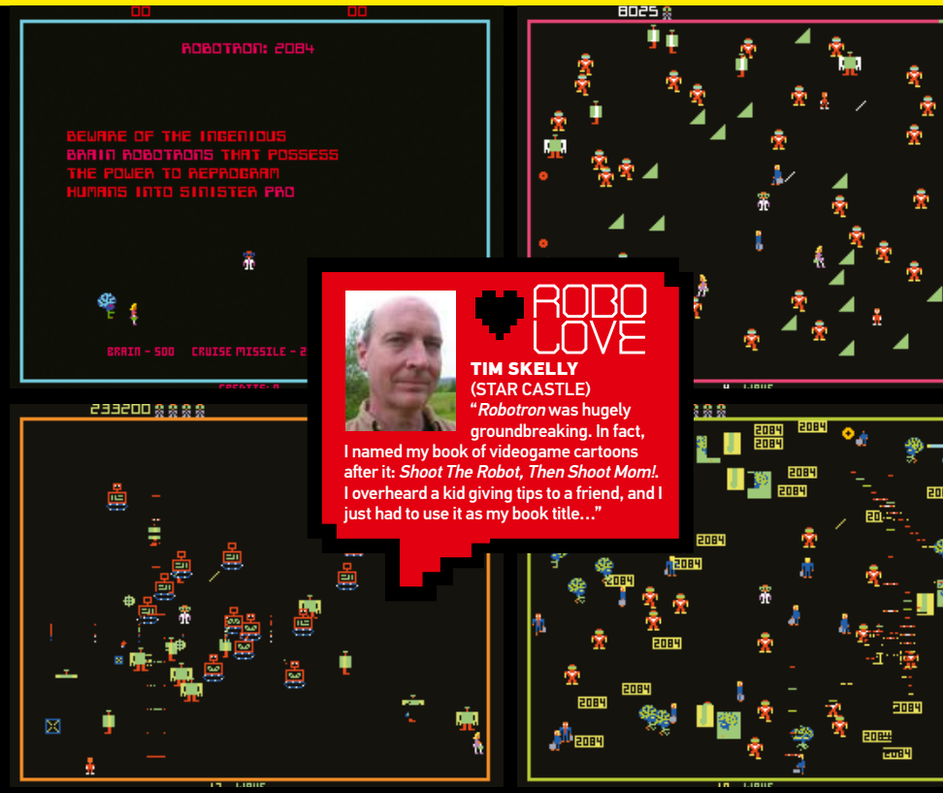
The hardware issue plagued many of the official home ports of *Robotron*, although some third-party efforts, such as Paul Holmes' Spectrum homage *Wild West Hero*, went some way to capturing the spirit of the arcade original. Even Eugene and Larry's sequel to the game, *Blaster*, abandoned the twin-stick model, and, despite flourishes of brilliance, was something of a flop. "*Blaster* is fun, but it failed to resonate with players for a few reasons, including the videogame crash and a tiring of space themes," Eugene admits. "We faced the problem all 3D flight games have suffered for many years. The action is very compelling and exciting on a primitive visual level, but it is hard to get meaningful gameplay and interaction as you blow through the universe at the speed of light. Repeat play becomes a huge issue."

One arcade game directly influenced by *Robotron* was Atari's excellent vector shoot-'em-up, *Black Widow*, as its creator, Bruce Merritt, explains: "We had a *Robotron* game in Atari engineering's common area and many of us had calluses from wrenching the joysticks, shooting brains and protecting our nuclear family. It was definitely inspirational in the use of controls in *Black Widow* – it was hard to argue how effective two sticks were in escaping in one direction while firing in another."

By 1990, arcade videogame hardware had evolved enough to tempt Eugene to return to the twin-stick shooter genre, with Mark Turmell and artist John Tobias. "The original concept for *Robotron* was really more in line with a huge multi-chamber world like *Smash TV*," he says, referring to his famously violent gameshow-themed shooter. "In arcade [design], the rule was ship the game when it becomes fun, and with *Robotron* a simple random-number-driven world generator did the trick, obviating the need for a hugely detailed world. So Mark, John and I wanted to go back and do this huge world culminating in the fabled 'Pleasure Domes'. Also, we were really jazzed to develop a new storyline based on *Running Man* and *RoboCop* memes."

The final instalment in Eugene's unofficial *Robotron* trilogy, 1993's *Total Carnage*, featured a distinctly Gulf War-inspired atmosphere, and ditched most of the static arena 'lock-ins' of *Smash TV*, something that Eugene admits may have been a mistake in terms of player excitement levels. "For *Total Carnage*, we tried a scrolling mechanic, and the game really lost something," he admits. "It became just a fire-hose kind of shooter without the tension."

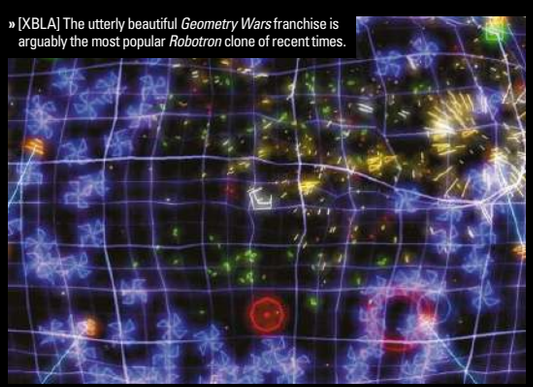
Outside of Eugene's own inventions, there were a few other interesting takes on the format, including Jeff Minter's surreal but brilliant homage, *Llamatron*, which was released as a shareware title for the Atari ST and Amiga. Midway's *Robotron X*, released in 1996 on the PlayStation and PC, and later ported to the N64, brought the original game up to date in 3D, with varying success depending on how well players were able to utilise the 3D camera.



ROBO LOVE

TIM SKELLY
(STAR CASTLE)
"*Robotron* was hugely groundbreaking. In fact, I named my book of videogame cartoons after it: *Shoot The Robot, Then Shoot Mom!*. I overheard a kid giving tips to a friend, and I just had to use it as my book title..."

» [XBLA] The utterly beautiful *Geometry Wars* franchise is arguably the most popular *Robotron* clone of recent times.



EUGENIUS!

The ten best games of Eugene Jarvis… aside from Robotron

01 DEFENDER

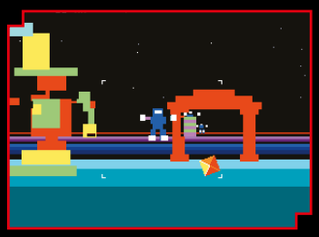
Defender's stark beauty, multi-dimensional gameplay and stunning pyrotechnics were a revelation back in 1980, more surprisingly given that it was Eugene's videogame debut. It revitalised the fortunes of manufacturer Williams to such an extent that Stan Jarocki, marketing head at arch-rival Midway, was heard to comment: "For a first effort, *Defender* is amazing."

08 CRUIS'N USA

The first in Eugene's much-admired driving series, *Cruis'n USA* was a lighthearted take on the arcade racer, with a physics engine that favoured spectacular spins, crashes and airborne vehicles over realism. The game's visuals, which were painstakingly digitised from real-life locations, are a real asset in bringing the various courses from around the US to life.

02 FIREPOWER

This highly regarded pinball table from legendary designer Steve Ritchie was the first electronic pinball machine to feature now-standard elements like 'lane change' and multi-ball. Eugene was responsible for the game's software and memorable sound effects, while the table's classic layout went on to inspire the hit video pinball simulation, *David's Midnight Magic*.



04 BLASTER

Vid Kidz' last videogame, this unofficial *Robotron* follow-up is a fast-paced 3D space shooter. Despite negative comparisons to *Robotron*, *Blaster* is a great bit of programming; its psychedelic Lego-brick visuals convey a real sense of speed. The game's rarity and heritage has made it popular with collectors, with the attractive Duramold cabinet being particularly sought after.

06 SMASH TV

Eugene's triumphant return to the twin-stick shooter, *Smash TV* is an ultra-violent gameshow-themed blaster where big guns, rather than points, mean prizes. Building on *Robotron*, it adds an exploration element, a variety of funky weapons, and some particularly gnarly bosses, including the infamous Mutoid Man. Winning a brand new VCR was never so much fun.

09 CRUIS'N WORLD

Racing games were big business in the Nineties, so it was inevitable that Eugene would be asked to produce another. This time there's a globe-trotting theme and a new stunt system. After one last sequel, 1999's *Cruis'n Exotica*, the series became the highest-grossing arcade racing franchise of all time.

03 STARGATE

With *Defender*'s massive success under their belt, Eugene and Larry left Williams to form their own company, Vid Kidz. *Stargate*, the sequel to their debut hit, was the first project under this new moniker. It features similarly blistering gameplay, adding new enemies and features, like the Stargate itself, which served as a portal to nearby humanoids in distress.

05 NARC

This controversial scrolling shooter was one of the first games to use the digitised graphics technique later made famous by *Mortal Kombat*. *Narc*'s body count would make Arnie blush – blowing the appendages off drug lords with Uzis and rocket launchers is entertainingly silly, although pacifists can go for the less lethal approach of arresting suspects for bonus points.

07 TOTAL CARNAGE

The final slice of twin-stick mayhem from Eugene and Mark Turmell, *Total Carnage* takes place in a fictional Middle Eastern state where a crazed dictator is in cahoots with evil space aliens. Despite some clever ideas, it doesn't scale the lofty heights of its predecessors, but is still an enjoyable romp.

10 THE FAST AND THE FURIOUS

Licensed from the popular 2001 street-racing flick, this arcade racer is very much the spiritual successor to the *Cruis'n* series. *The Fast And The Furious* lives up to the name of Eugene's production company, Raw Thrills, providing a high-octane rush through a variety of well-known US locales.

"*Llamatron* was a very cool and humorous take-off," says Eugene, praising Minter's take on his game. "But like almost all the classic arcade titles, the 3D thing just never worked out for *Robotron*. The 2D complete information God's-eye view is what makes the game happen. Getting whacked in the back or blindsided in a 3D world will never be fun. You really need the complete info of 2D to be able to handle the central nervous system overload *Robotron* is known for."

ROBO LOVE

JEFF MINTER (LLAMATRON)

"Eugene Jarvis was my absolute hero back then, and his designs had a major influence on my own style. My favourite was without doubt *Robotron*. This superlative game was presented in what was the signature style of Jarvis and Larry DeMar – fast action, large numbers of brightly coloured enemies, and wonderful explosions that shattered the enemies into tiny pieces all over the screen when shot. A twin-stick control system allowed you to move and fire with great precision and accuracy – an absolute necessity in a game that was brutally, beautifully, *sensually* difficult."

The twin-stick revival

Ironically, it was one of the banes of a retro gaming fan's life that turned out to be the saviour of twin-stick shooting games – the rise of the first-person shooter. "It wasn't until the dominance of FPS games drove dual-stick adoption in the Xbox and PlayStation DualShock controllers that the twin-stick approach became standard, almost 20 years after *Robotron*," says Eugene. "Next, the rise of retro players and the indie development community on Xbox Live Arcade created the current twin-stick game renaissance in its original 2D form."

One of the first, and arguably most influential, of the new wave of twin-stick shooters was Bizarre Creations' *Geometry Wars*, originally included as an Easter egg in *Project Gotham Racing 2*. "When I started at Bizarre, I ended up working on *PGR1*, being given most of the tasks the more senior coders couldn't be arsed to do," says designer Stephen Cakebread. "One task happened to be the code that interfaced with the Xbox joypad, so one evening while prototyping some code that dealt with the two analogue sticks I got a little bored, and because I was aware of the idea of the twin-stick shooting mechanic, and already had some code reading both sticks, it felt natural to experiment making a twin-stick shooter.

"One of the big differences in play that I noticed was the importance of position in *Robotron*, due to the eight-way shooting, whereas position in the first *Geometry Wars* is fairly unimportant – mostly you just circle forever. This added an extra layer to the gameplay in *Robotron*, so I wanted to replicate that feeling in the later *GW* games, but without limiting fire direction. So its influence on *Geometry Wars* is that it made me aware that you can make a fairly tactical game even when it's very chaotic, and prompted me to work on the gameplay to increase the number of decisions the player had to make. *Robotron*'s design is excellent, and anyone making a modern twin-stick shooter should definitely play it, as it has a lot to teach."

"My first experience of a game of that type would have been *Llamatron* on the Atari ST," says indie developer Charlie Knight. "I think I must have discovered *Robotron* after playing that. *Robotron*'s a really pure game, and I think that's a lot of the reason it's so well regarded. I'd say I got more from *Llamatron* on account of it being much less punishing, but it lacks *Robotron*'s punch and immediateness. I can't think of many other games that come close to it in this sense. In terms of

» [Spectrum] *Wild West Hero* was a slick *Robotron* clone on the Spectrum, which traded robots for lots of cowboys.

FANCY A CHALLENGE?

Eight rock-hard arcade games

DONKEY KONG

The King Of Kong goes to great lengths to convince us that *Donkey Kong* is the hardest arcade game. We haven't played everything to compare, but we'd guess it was pretty close, given the notorious Elevator stage, in which Donkey Kong bounces lethal springs across the screen at breakneck speed.

SINISTAR

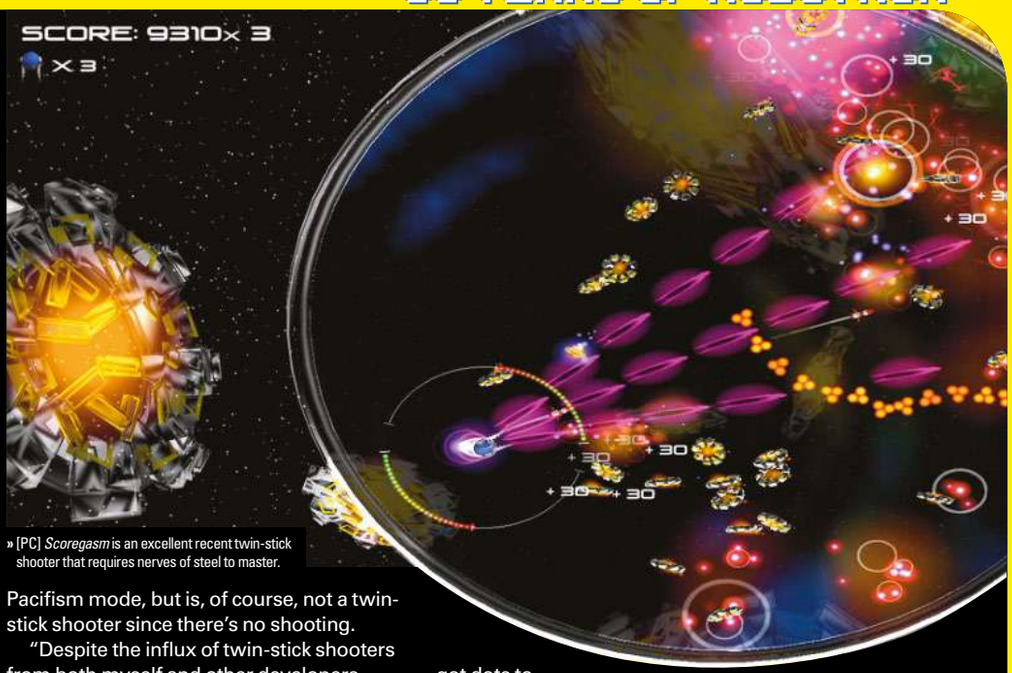
Sinistar is notable for being modified to be far harder than originally intended, after dollar-hungry arcade operators complained that players were lasting longer than two minutes. It also features perhaps the most terrifying videogame boss of its era, the eponymous Sinistar. "Run, coward," indeed.

TEMPEST

Dave Theurer's abstract vector shooter brought a nightmare into the arcades, being inspired by a childhood dream of monsters pouring out of a hole in the ground. Like *Robotron*, *Tempest* is a wonderfully pure blaster, testing players' nerves before completely and utterly overwhelming.

SUPER ZAXXON

For some reason, Sega saw fit to make the sequel to its hit isometric shooter scroll at roughly twice the speed, making slamming into a wall or missile less a threat, more a foregone conclusion. The claustrophobic tunnel sections only serve to make things even trickier. Suffice to say it wasn't nearly as popular with arcade goers as the original.



» [PC] *Scoregasm* is an excellent recent twin-stick shooter that requires nerves of steel to master.

it being an influence, it's the essence of every twin-stick that followed, and my own are no exception. *Bullet Candy*, my first commercial game, started life as a fairly dull clone before I realised that it'd be more fun to put my own spin on it. More recently, with *Scoregasm*, I guess in terms of the game's structure and pacing the influence is more diluted, but the essence is still there for all to see."

"I was a huge *Robotron* fan, but was hugely let down by the Genesis version," says Radiangames' Luke Schneider. "Without the dual joysticks of the arcade version, the immediate and visceral connection to the action was severed. I picked up a PlayStation with a DualShock for *Metal Gear Solid*, and its real influence on me was instilling a strong desire to create a dual-stick shooter. Trying to replicate *Robotron* on dual-analogue sticks isn't wise, though, because the eight-way directionality is so important to the design, and analogue sticks aren't eight-way.

"When I started Radiangames, my first game had to be a twin-stick shooter. *JoyJoy* was released in 2010. Since then, I released two other twin-stick-influenced games, *Inferno* and *Ballistic*, with enhanced ports of those two titles. And then there's *Fireball*, which was directly influenced by twin-stick legend *Geometry Wars 2*'s Pacifism mode, but is, of course, not a twin-stick shooter since there's no shooting.

"Despite the influx of twin-stick shooters from both myself and other developers, there's still a couple of unique things about *Robotron*'s design that still makes playing the arcade version special today: the eight-way directional focus and the 'everything spawns in at once' wave design. Those elements combine with the authentic 8-bit era sound effects and graphics to create a game that will remain a classic forever."

Developer Puppygames is unleashing a whole trilogy of *Robo*-influenced twin-stick shooters, starting with *Ultratron* for the Xbox 360 and PC. "*Ultratron* was a very traditional eight-way movement, eight-way shooting, *Robotron*-esque game," says coder Caspian Prince. "*Ultratron 2* added the now-ubiquitous mouse-to-aim controls. For *Ultratron 3*, we're throwing in a bunch of old arcade memes in order to liven it up somewhat. We've got dots to gobble, which earn money to spend on upgrades. We've got pets that you buy in the shop between levels, which follow you around and help zap the enemies in one of three distinctive ways. And lastly we're un-evolving the level spawning away from the *Ultratron 2* style of constantly spawning enemies, making it more like contemporary titles such as *Mutant Storm*."

With the current resurgence of games utilising the dual-stick mechanic, from *Super Stardust Delta* to *Lara Croft And The Guardian Of Light* and *Minotron*, and dozens of quality PSN, Xbox Live Arcade, Xbox Live Indie and iOS titles to choose from, there's never been a better time to celebrate the twin-stick shooter. "I love that developers today are inspired by classic titles like *Robotron* and *Smash TV*," says Eugene proudly, "and new-generation hits like *Geometry Wars* have pushed the dual-stick shooter genre to new frontiers of fun…"

ROBO LOVE

STEVE WOITA (QUADRUN)

"While I was at Atari, I would take breaks that involved walking to the very back of the building, which had a small arcade that included many classics, one of which was *Robotron*. I found that this was the only videogame that I actually got exercise playing, and I always felt great afterwards. The bonus chain design was awesome and had a pinball scoring way about it – the first collection was 1,000, then 2,000, 3,000, 4,000 and 5,000 points thereafter. If you died or ended the wave, it would reset to 1,000 points for your next pickup. This design element was brilliant. It was just magic."

FLYING SHARK

Modern shooters are designed so nearby enemies won't fire on you, giving players a sort of survival buffer. Toaplan's early shoot-'em-ups, which also include *Twin Cobra* and *Truxton*, feature baddies that have a habit of firing mercilessly, even if they're right on top of you. The result? Much cursing, angry clattering of joysticks and very little change left in our pockets.

JOUST 2

Joust 2 was a victim of circumstance, being designed as a kit conversion for arcade cabinets with vertical monitors, the most common at the time because of the ubiquity of *Pac-Man*. While the original used a horizontal screen, giving you plenty of warning of incoming enemy buzzard attacks, the sequel's restrictive field of vision made for a far tougher game.

R-TYPE

The *R-Type* games, alongside Konami's *Gradius* titles, are renowned as some of the most punishing shoot-'em-ups ever created, requiring superlative reflexes and the memorising of large chunks of their level layouts to even have a remote chance of seeing them through. *R-Type*'s famous mothership is not for the faint-hearted, and the rest of the game is harder still.

GHOSTS 'N' GOBLINS

The *Ghosts 'N' Goblins* series as a whole is notably difficult, but the original is probably the hardest of the lot – even the opening stage requires pixel-perfect timing and a high degree of skill just to make it to the first boss. Adding insult to injury was the fact that Capcom made you play through the game twice to reach the true ending and rescue your sweetheart.

ROBOEVOLUTION

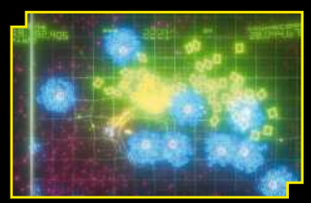
20 games with a debt to Eugene Jarvis's classic blaster

BLACK WIDOW

With a twin-stick control scheme hijacked from *Robotron*, Bruce Merrit's underrated vector-graphic blaster tasks players with keeping a series of webs clear of marauding enemy bugs. *Black Widow* is fast, fluid and compelling, and as with *Robotron*, it's a game that ideally requires playing on an original arcade cabinet to fully appreciate its genius.

LLAMATRON

Jeff Minter's loving *Robotron* pastiche dials down the rabid difficulty, and the result is a considerably more genteel offering with a liberal sprinkling of hairy Minter touches. Bouncing bullets, smart bombs and herd bonuses are just some of the goodies on offer, and you can even Blu-Tack two joysticks to the floor for the full arcade-style experience.



GEOMETRY WARS: RETRO EVOLVED 2

The mini-game proved popular enough for Bizarre to release a sequel, *Geometry Wars: Retro Evolved*. The second sequel was even better, and included modes like Pacifism, in which players have no weapons, and enemies can only be killed by flying through gates.

WILD WEST HERO

Along with the authorised conversions, a number of third-party clones made their way onto home computers in the Eighties. Paul Holmes' *Wild West Hero*, released on the ZX Spectrum, was one of the finest. Atarisoft obviously thought so too, signing up Paul for the official Spectrum *Robotron* port, which sadly never materialised.

ROBOTRON X

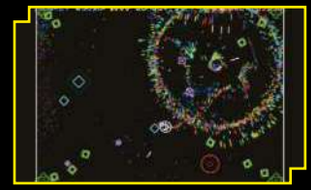
Midway's 1996 3D revamp features super-enhanced hero U-Gene (geddit?) strapping on his blaster to fight a range of familiar enemies along with some all-new bad guys. It's a decent effort, with faithful 3D re-creations of foes and those famous shattering explosions, but the in-game camera can be a little disorienting at times.

GUN SPIKE (AKA CANNON SPIKE)

Developed by shooter king Psikyo in collaboration with Capcom, *Gun Spike* was a NAOMI-based arcade game that appeared to draw heavily from *Smash TV*. It features a variety of selectable heroes from previous Capcom arcade games, including Mega Man, Arthur from *Ghosts 'N' Goblins*, and Cammy from the *Street Fighter* series.

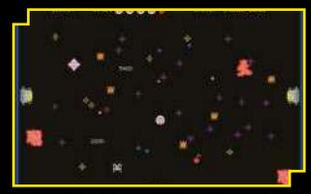
SLIMEY'S MINE

Simon Pick's quirky C64 shooter, a sort of cross between *Robotron* and *Pac-Man*, sees our frog-like hero zipping around caverns, zapping nasties and collecting jewels. It's extremely good fun, doubly so because of its hilarious sampled sound effects, with baddies that emit gurgling screams on dying, accompanied by shouts of, "Got him!"



GEOMETRY WARS

Starting life as an Easter egg in *Project Gotham Racing 2*, *Geometry Wars* is probably the most well-known of the games that led the resurgence of twin-stick shooters. More free-form in design than *Robotron*, its glowing visuals and spectacular particle-based explosions were reminiscent of vector arcade games like *Asteroids* and *Tempest*.



CRYSTAL QUEST

The first game to support full colour on the Mac, *Crystal Quest* was a mouse-driven title where players guide a sphere around the screen, collecting crystals while avoiding or shooting enemies. The action gets hectic on later stages where enemy numbers approach *Robotron* levels, and bullets ping dangerously around the arena.

MUTANT STORM

Another of the early games of the 'twin-stick revival', *Mutant Storm* displays plenty of evidence for *Robotron* being a major blueprint, in the same way its predecessor, *Space Tripper*, channelled *Defender*. An updated version, *Mutant Storm Reloaded*, was later released for the 360, while this original release recently made its way to iOS devices.

BLAST FACTOR

One of the first twin-stick shooters available for the PS3, *Blast Factor* features a concept pinched from Sixties sci-fi flick *Fantastic Voyage*, although sadly no Raquel Welch. Basically, you're stuck inside a body in a tiny ship, and the game revolves around battling hostile viruses and ridding surrounding cells of hostile infections.

EVERYDAY SHOOTER

Released on PC and PSN in 2008, this unique title, created by Jonathan Mak, is described by its author as "an album of games exploring the expressive power of abstract shooters". Against a soundscape of crunching guitar riffs, the game makes frequent visual nods to *Rez*, *Centipede* and *I, Robot*.

I MAED A GAM3 WITH ZOMBIES IN IT!!!

Despite its stupid title, *I MAED A GAM3* is a decent *Robotron* clone, with zombies, natch. The most impressive thing about this XBLIG title is how many it has sold – over 300,000 have blasted zombies and been driven nuts by the annoying background song to date.

BEAT HAZARD

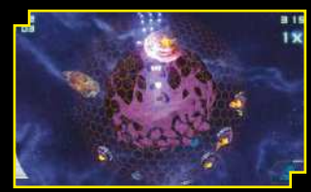
This mash-up of *Super Stardust* and *Robotron* has a neat gimmick, allowing you to use your own music, from which the game spawns its own unique levels. But be warned: it features some of the most over-the-top strobe effects ever seen in gaming. If you thought *Space Giraffe* was a bit too in-your-face, you might want to give it a miss.

SCOREGASM

Charlie Knight's follow-up to *Bullet Candy* mixes Jarvis with trippy, Minter-esque visuals to create a game that's a bit tasty. Played across a branching, non-linear galaxy, creating a different experience each time, *Scoregasm* flings baddies, bullets and scoring opportunities at you thick and fast, and is a welcome addition to the genre.

BALLISTIC

Indie developer Radiangames' debut release was a twin-stick shooter called *JoyJoy*. *Ballistic* carries on the tradition, being a lovely-looking blaster with an interesting weapon system and a surprising amount of depth. Those with 80 Microsoft Points to spare could do a lot worse than heading over to Xbox Live Indie Games to give it a go.



SUPER STARDUST DELTA

Released on the Vita, this remarkably pretty game was the second twin-stick shooter in the *Super Stardust* series, following the acclaimed *Super Stardust HD*. The visual hook of both games is the rotating 3D 'planet' that spins below your ship as you move, scrolling orbiting asteroids and hostiles with it.

P-3

BatCat Games' innovative shooter sees you piloting a nano-ship in a Petri dish setting, striving to protect a central nucleus. One clever touch is the ability to use up the life force of the nucleus to give yourself a weapons boost, turn your ship into a projectile, or release a devastating shockwave. But take care: if the nucleus dies, it's game over.

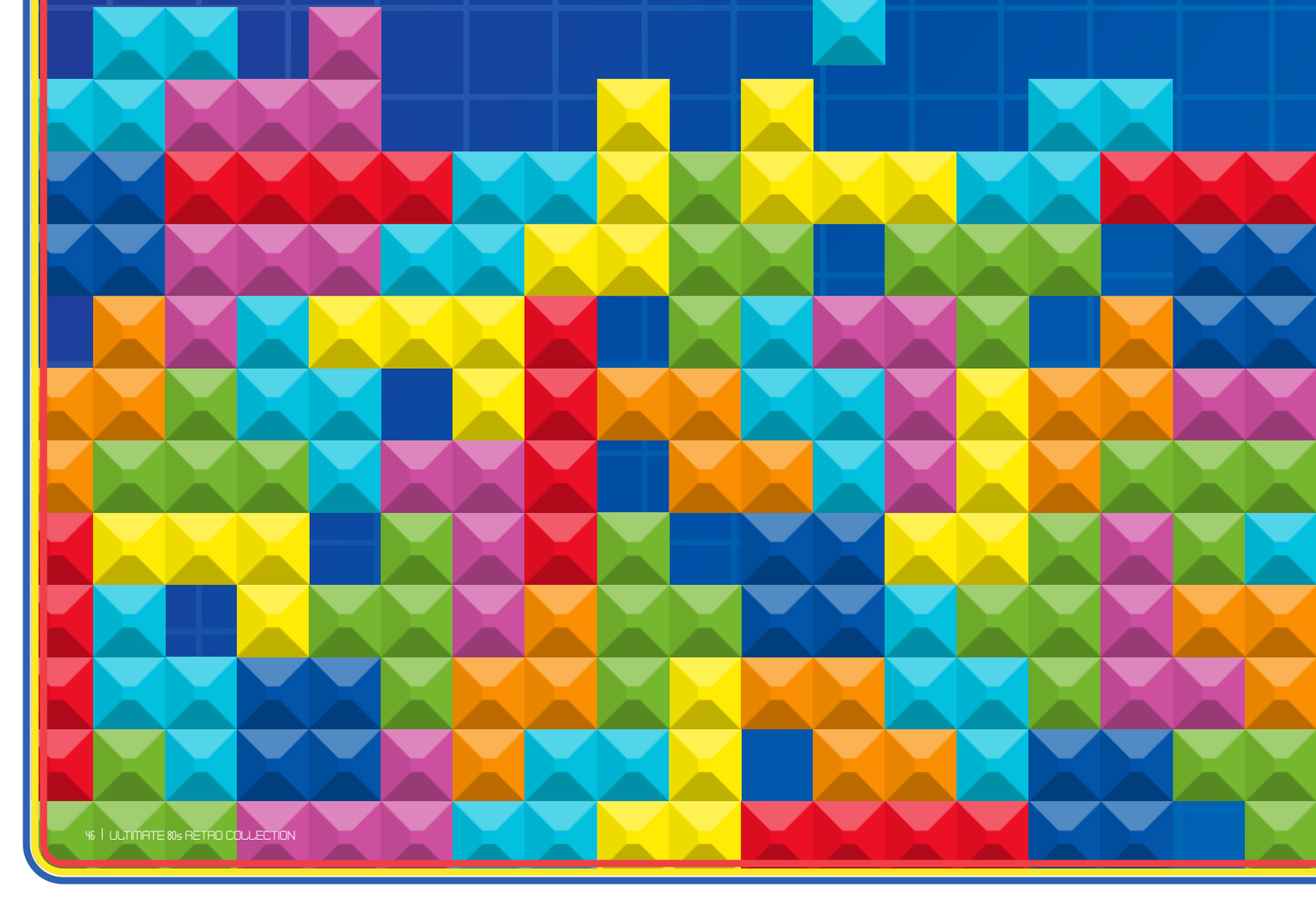
ULTRATRON

Ultratron is a *Robotron*-esque twin-stick shooter, sporting attractive neon graphics and a variety of nifty power-ups. The opening stages are a little leisurely, but it doesn't take long before the game starts throwing ambush levels and bosses into the mix to add to the merriment. Best of all, the 360 version can be had for just 80 Microsoft Points.

MINOTRON

With 2010's *Minotaur Project*, Jeff Minter announced a return to the quick-fire production values and arcade-style purity of his classic catalogue. *Minotron* is a re-imagined take on *Llamatron* for iOS, with sprites lifted directly from the Atari ST original, and the return of old favourites like 'screaming Mandy' – the homicidal floating Mandelbrot.

THE HISTORY OF TETRIS

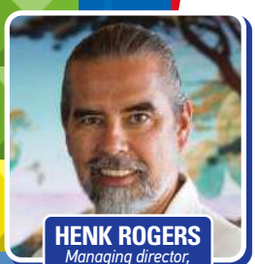


TETRIS

FOR OVER 35 YEARS, TETRIS HAS INFILTRATED THE MINDS AND HEARTS OF GAMERS. CREATOR ALEXEY PAJITNOV, AND TETRIS BOSSES HENK ROGERS AND MAYA ROGERS REVEAL HOW THIS SIMPLE PUZZLER TURNED INTO A WORLDWIDE JUGGERNAUT

Words by David Crookes

ALEXEY PAJITNOV
Creator of Tetris



HENK ROGERS
Managing director, The Tetris Company

MAYA ROGERS
President and CEO, Blue Planet Software

There are some videogames out there that are incredibly difficult to tear yourself away from. We're also aware that games can distract you from life's more tedious tasks. What to make of *Tetris*, then? A puzzler that gets so inside your brain, it can lead to the medically recognised 'Tetris Effect' – where you play so much of the game you actually start hallucinating tetrominoes in your day-to-day life. Yet it's a runaway bestseller that's essentially about tidying up the playfield over and over again. Cleaning, we imagine, has never been so successful.

It was a strong pairing of developers which saw this iconic puzzler reach dizzying, multimillion-selling heights, and it ended up in the slippy mitts of so many people and companies that the entire western licensing deal could easily become the basis of a gripping holiday page-turner. Never mind that it's already been the subject of a BBC documentary, *Tetris: From Russia With Love*, *Tetris*' origin story is richer than a Russian oligarch.

To go into the ins and outs of what happened between 1984 and 1989 would likely take over the entirety of this issue. Suffice to say 29-year-old Russian computer engineer Alexey Pajitnov toiled on his humble Elektronica 60 computer at the Soviet Academy Of Sciences in Moscow and created a prototype of an intriguing puzzle game that would eventually be fought over by companies such as Nintendo, Mirrorsoft, Spectrum Holobyte, Andromeda and Bullet-Proof Software.

The breakthrough was a PC version in 1985, created by Alexey with the help of colleague Dmitry Pavlovsky and a young programmer called Vadim Gerasimov. The whole shebang had been inspired by the board game, *Pentominoes*, which involved putting 12 types of five-square pentomino pieces on to an 8x8 grid, rotating and reflecting them to fit without overlapping. Alexey realised that 12 pieces was too much – "People would not be able to remember so many," he says – so he ditched pentominoes for tetrominoes (geometric shapes composed of four squares connected

» *Tetris*' popularity skyrocketed with the Game Boy version. It would go on to become the handheld's bestselling title.

GOING MAINSTREAM

The puzzle masterpiece is so popular it's broken into other forms of media…

MUSIC

■ The single, *Tetris*, shot to number two in the UK charts in 1992. Based on the 19th century Russian folk song *Korobeiniki*, it was created by Dr Spin – the pseudonym used by Andrew Lloyd Webber – and record producer Nigel Wright. Another song called *Tetris* by Madilyn Bailey was released this year and uses the blocks as a love metaphor.

THE SIMPSONS

■ In episode nine, season 14 of *The Simpsons* in 2003, Homer is trying to pack the car only for Bart to question whether he'd be able to get all of the junk in the trunk. "Don't worry," he reassures as an infamous tune plays in the background. "This is what all those hours of playing *Tetris* were for."

TRESTLING

■ Featured in the hit comedy *The Big Bang Theory*, Trestling was introduced as combining "the physical strength of arm wrestling with the mental agility of *Tetris*". Played by characters Sheldon and Raj way back in the first season (episode *The Peanut Reaction*), the idea was to play *Tetris* while arm wrestling with the first to win in either emerging victorious.

PUBLIC ART

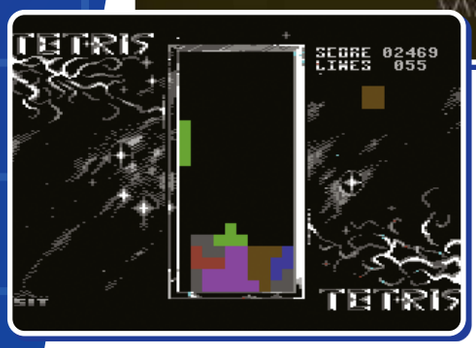
Image © Drexel University

■ By projecting a game of *Tetris* on the side of Philadelphia's Cira Centre in 2014, Dr Frank Lee's art installation not only created a stunning 29-storey canvas on which to play, but earned a world record for the largest architectural videogame display. Meanwhile LummoBlocks in Madrid's Plaza de las Letra used a giant screen and allowed pedestrians to play by simply walking.

MERCHANDISE

■ From T-shirts and tote bags to pillows and lights, the huge variety of *Tetris* merchandise can be seen on the streets, in the home and at work. "Merchandise is a big part of the business," says Maya Rogers. "One of the things we found is that any merchandise where people could see the game and imagine playing it always works very well."

» A photo of the original *Tetris* – the game has come a long way from the simplistic visuals of an Elektronica 60 computer.



» [C64] *Tetris* on Commodore 64 was part of the first wave of conversions by Mirrorsoft.

orthogonally), cutting the number of shapes down to seven.

From there, the game found its way out of the USSR. It was ported to the Apple II and Commodore 64 by Hungarian coders then, in 1987, it was converted to many machines for the North American and European markets. The following year, Bullet-Proof Software's boss Henk Rogers spotted the game at the Consumer Electronics Show in Las Vegas and became determined to secure the rights. He released versions for the NES and PC in Japan and, following trips to Moscow, moments of panic and companies creating versions they weren't actually allowed to, he ended up walking away with, among others, the licence to produce ports for handhelds. By putting this into the palms of Nintendo, *Tetris* was created for the Game Boy in 1989. Bundled with the console, it became the best-selling puzzle game of all time, with 30.26 million copies sold.

Tetris suited handheld gaming extremely well. "The Game Boy had a small monochrome screen but *Tetris* was perfect for it because the blocks were easy to see and manipulate," Henk says. As a true pick-up-and-play title, it could occupy short bursts of time while being easy to learn. Players simply needed to move the pieces left and right, rotate them and slot them into place within other blocks at the bottom of the playing field. Getting four lines achieved a tetris, removing them from play. But just getting one line resulted in it being cleared it. It's then a matter of keeping it up so the blocks don't reach the top.

"To me, the Game Boy was made for *Tetris* and *Tetris* was made for Game Boy," Henk continues.

But that's not to say it doesn't work on other formats. *Tetris* has the world record for being the most ported videogame, covering more than 70 platforms. It's available in 185 countries and in 50 languages. It's even been known to help the sick – and we're not kidding: a university study in 2017 claimed it can prevent post-traumatic stress disorder by lessening intrusive thoughts, while playing for three minutes a day is said to decrease craving for addictive substances by a fifth.

Much of that is down to Henk. He struck up an instant rapport with Alexey during his negotiations and the pair became close. "He was the only one who knew anything about games," Henk says. "Everyone else were bureaucrats or KGB." Henk also influenced the direction of the game. "Alexey's original was all about survival so I put in the additional play concept of having points for clearing lines and bonuses for getting rid of three at a time, which changed the way people played," he continues. "I also broke *Tetris* up into levels."

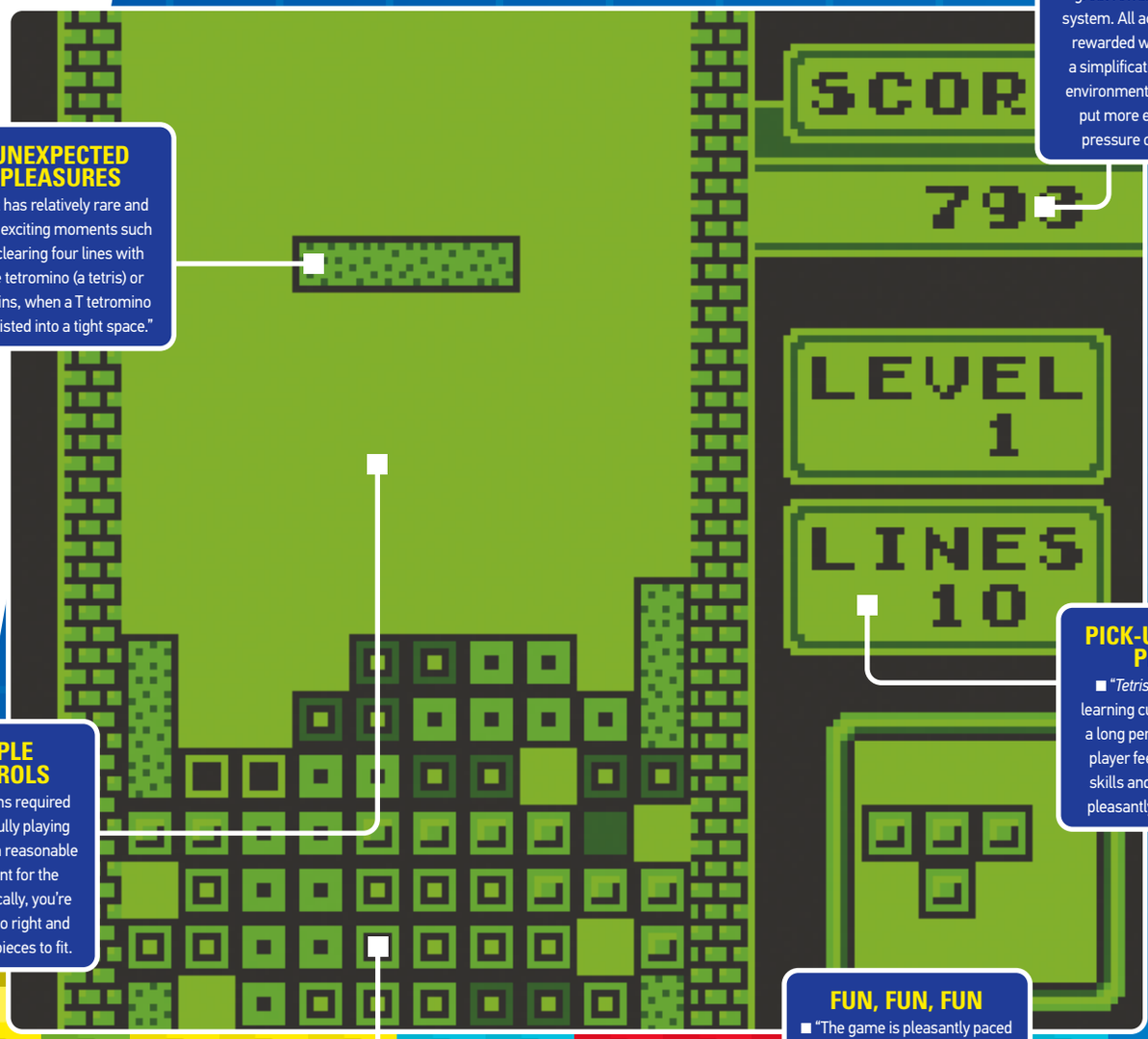
From then, *Tetris* snowballed, evolving, changing and mashing up with other games and concepts. Today, The Tetris Company officially recognises in excess of 220 versions of the game and the first of these came straight away, when in 1989 Alexey, with the help of Andrei Sgenov, designed *Welltris*.

Instead of falling down the screen, *Welltris* had blocks falling into a pit. Players would then move the pieces from wall-to-wall before considering how they'd slot into place at the bottom to complete vertical or horizontal lines. Originally released for DOS and the Mac and ported to 8-bit and 16-bit home computers, it was inspired by another puzzler, *Blockout*, developed in Poland by California Dreams.

"I didn't like *Blockout*," Alexey explains. "It used 3D wireframed blocks that only showed the edges and I thought a lot about how it would be possible to do it myself. I decided to essentially make *Welltris* a 2D game with a real strong sense of 3D by having flat pieces fall down the surface of the walls. The effect of jumping the piece from wall-to-wall, especially on the bottom, uses really complicated 3D effects but it still has the addictiveness of *Tetris* because you work with 2D pieces."

THE DNA OF TETRIS

Alexey Pajitnov tells us why he thinks Tetris is beautifully addictive and works so well



UNEXPECTED PLEASURES

■ "It has relatively rare and very exciting moments such as clearing four lines with one tetromino (a tetris) or T-spins, when a T tetromino is twisted into a tight space."

RICHLY REWARDING

■ "The game has a natural, great reward/punishment system. All achievements are rewarded with a score and a simplification of the game environment while mistakes put more environmental pressure on the player."

PICK-UP-AND-PLAY

■ "*Tetris* has a good learning curve – there is a long period when the player feels his or her skills and abilities are pleasantly improving."

SIMPLE CONTROLS

■ "The actions required for successfully playing *Tetris* are both reasonable and pleasant for the player." Basically, you're moving left to right and rotating the pieces to fit.

FUN, FUN, FUN

■ "The game is pleasantly paced and it is also fun to play, to watch and to compete."

FAST PUZZLING ACTION

■ "*Tetris* combines puzzle-solving and real-time actions," Alexey says, pointing to the way gamers have to think on their feet as they slot blocks into full lines to clear them.

CONVERSION CAPERS

Official versions of Tetris that will steal away your time

NINTENDO

GAME BOY

■ Nintendo's Game Boy version is the most iconic of them all, delivering a pure green screen game of *Tetris* that showed the next available piece, kept score and levelled up when you got ten lines.

NES

■ Three versions existed on the NES and this was Nintendo's. Although it only allowed for single players, it had bigger and more vivid blocks than Tengen's version and it was faithful to Alexy's original game.

SPECTRUM HOLOBYTE

DOS

■ This version was the one that originally got PC gamers hooked to their keyboards. Not only was this rendition fast and smooth, it let you push up to change the background on the fly.

APPLE II

■ After choosing your level and height, you could get down to business. The pieces fell slowly, almost jerkily, to the sound of Russian folk music but the changing backgrounds added variety.

ATARI ST

■ Spectrum Holobyte produced its own fantastic version of *Tetris* for the Atari ST. It had some stunning backdrops depicting Russian cultural iconography as well as some classic Eastern European tunes.

AMIGA

■ The keyboard's control layout could have been better, but this game avoided the horrid garishness of the Mirrorsoft version and so it felt much more like pure version of the much-loved puzzler as a result.

MIRRORSOFT

COMMODORE 64

■ Set against a black and white backdrop, the coloured basic-looking blocks of this version of *Tetris* really stood out. It was certainly a graphically unique, almost haunting version of the game.

ZX SPECTRUM

■ Depending on which version you went for – 48K or 128K – you'd have different title music and either sound effects or a tune playing as you got to grips with this surprisingly smooth-running rendition.

AMSTRAD CPC

■ Played to the backdrop of a god-awful tune, *Tetris* on the CPC also had eye-searing graphics, a mind-boggling striped background and frustrating controls. Not one of the finest ports if we're honest.

BBC MICRO

■ A glorious, basic-looking *Tetris* port that features ten levels of skill and literally throws you straight into the action. Its major disappointment are the simple beeps – no mood-setting music here.

ATARI ST

■ Quite why Mirrorsoft decided to include a fuzzy yellow background in this version of the game is anyone's guess (it can be turned off). You'd have to perform exceedingly well to get on the high score table, too.

AMIGA

■ Near-identical to Mirrosoft's Atari ST version, the music could become annoying after a while but its perspective effect on the blocks was nice and it was ranked one of the 100 best games by *Amiga Power*.

TENGEN

NES

■ This Tengen version is often considered to be the best thanks to its presentation (coloured blocks become the same colour as they land) and options including cooperative, versus and against-AI modes.

ARCADE

■ The Tengen NES version's style had been influenced by this rendition of *Tetris*: Atari Games' arcade port of the game. Of course, the arcade version looked and sounded more impressive.

SEGA

ARCADE

■ Sega's arcade *Tetris* was a hit across Japan where players loved the challenging marathon mode. Pieces can rotate anticlockwise and there was time to rotate a piece on the ground before locking it in.

MEGA DRIVE

■ Nintendo became synonymous with *Tetris* because Sega's efforts were trashed. But it's worth seeking out: there are two rotate buttons and doubles mode where players share the same pieces well.

BULLET-PROOF SOFTWARE

NES

■ As a less-well-known version of *Tetris* on the NES, Bullet-Proof's effort was nevertheless the first. Clear 25 lines to advance and try not to use up your three lives too quickly.

MSX2

■ With beautiful presentation and the existence of three lives as with the NES version, *Tetris* on the MSX was detailed yet slow. Pressing up to rotate the pieces was confusing, though.

"DR MARIO WAS A BLATANT ATTEMPT TO COME UP WITH A TETRIS REPLACEMENT"

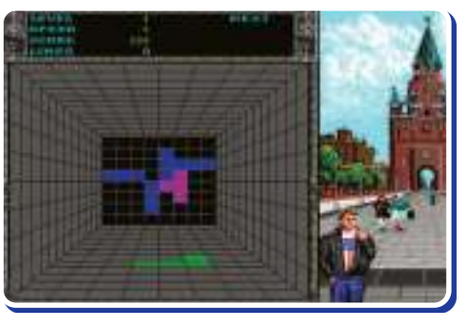
Henk Rogers

Welltris was followed by *Hatris*, a more peculiar take on *Tetris* because, as the name suggests, it involved headwear. Players stacked five identically-styled hats and it remains one of Alexey's favourites. "We originally considered doing something with utensils and other kitchen objects but thought hats would be more fun. It was very funny and we couldn't stop playing it. We hoped it would be really popular."

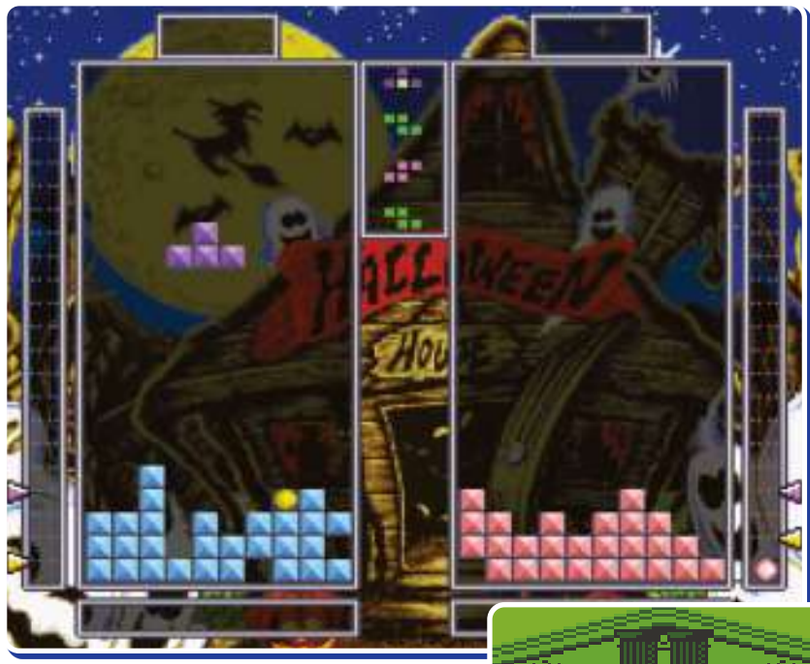
Henk did, too, and he released it for the NES, Game Boy and TurboGrafx-16, while an arcade version was created by Video System. "But the sales didn't match our expectations," Alexey laments. "I still can't explain what was wrong with it and why it was not as addictive as we wanted it to be. We thought it had some smart moves so it was a big disappointment."

Such bafflement was less apparent for *Faces Tris III*. Although this game won Best Action/Arcade Program in the Software Publishing Association's Excellence in Software Award, Alexey, who worked on it with Vladimir Pokhilko, admits: "Personally, I didn't like it very much. We forced it on Spectrum Holobyte and it was interesting because the pieces would form a human face. But somehow the effect of your mistakes was an ugly image on screen." As it turned out, *Faces Tris III* was the last *Tetris*-style game that Alexey directly created. But still the franchise continued.

Strong efforts were made to keep *Tetris* fresh. *Super Tetris* in 1991 had bolts of lighting, competitive and two-player co-op and, crucially, bombs that would remove as few as two or as many as 16 blocks. *Tetris 2 + Bombliss*, by Bullet-Proof Software, meanwhile, allowed for traditional games of *Tetris* but included a set of games that connected bombs to the pieces and allowed for greater explosions if there were many lines. Nintendo's *Tetris 2* changed the pace and inserted extra, irregular tetromino shapes, some of which did not adjoin. It also popped in some bombs for good measure, adding two-player simultaneous play and encouraging



» [DOS] With *Tetris* doing very well, Alexey Pajitnov was hoping for equal success with *Welltris*.



» [SNES] *Tetris Battle Gaiden* was a Japan-only release by Bullet-Proof Software where players shared one queue of pieces.

» [Game Boy] Alexey Pajitnov experimented with *Tetris* and ended up with *Hatris* that had two hats fall from the sky in order to be matched.

gamers to match blocks of the same colour. As the box suggested, it was a "tougher *Tetris* challenge".

"I liked these but I really enjoyed *Tetris Battle Gaiden* – that was probably one of the best games," says Alexey of those early iterations. *Tetris Battle Gaiden* was published on the SNES by Bullet-Proof in 1993. "It was really innovative with some good ideas – they put extra levels on top of the regular *Tetris* game and when you strategically collected specials, you could use it as a defence or an attack weapon," Alexey continues. "But unfortunately it was a rushed production and they didn't polish it enough. That kind of game needs three or four years just to balance it accurately and make it fun. The balancing of a game is part of the testing process and it's usually done on a very tight schedule."

Even so, *Tetris Battle Gaiden* forced players to rethink their strategies. Gamers strived to defeat their opponent by making use of the four special powers handed to each playable character and it ensured success could only come with a sharp eye, good timing and dollops of strategy. It appeared to go down better than *Dr Mario* (despite it being one of the better games inspired by *Tetris*). "I was pissed off about that game," admits Henk. "*Dr Mario* was a blatant attempt to come up with a *Tetris* replacement and I thought they did it in a cheesy way."

Originally a NES and Game Boy title, *Dr Mario* was enhanced and paired with *Tetris* on the SNES for the release of *Tetris & Dr Mario* in 1994. It didn't affect the franchise, however. Henk cemented his relationship with Nintendo ("Which was good before *Tetris*," he says, having published *Black Onyx*, the first RPG made in Japan on the NES in 1988). This led to Bullet-Proof Software releasing *Super Tetris 3* for the SNES at the end of 1994.

A year later, Henk set up a new company, Blue Planet Software, based in Hawaii, and it became the exclusive agent for the *Tetris* brand. In 1996, The Tetris Company was formed and a set of guidelines were created to pin down quality standards and consistency in the games that were created from that point on. By outlining a minimum specification for *Tetris* titles, third-party developers could be sure their game would be granted a licence. They'd specify what buttons should do what, for example, so players could easily move from platform to platform with comfort. They'd also discuss super rotation of the pieces to dictate how the blocks spawn and ought to behave.

Henk and Alexey vowed to keep raising the bar. Perhaps more importantly, Alexey began to be rewarded. Up until that point he had not received a single ruble for his efforts on *Tetris* due to the complications of Soviet-era contracts. Instead he had granted his rights to the government for ten years so 40 million sales counted for nothing in his pocket. With the rights reverting to him, he could finally collect royalties. "That was good," he says modestly.

Indeed it was because *Tetris* was on a roll. There had been a couple of Virtual Boy releases – Bullet-Proof's *V-Tetris* in Japan and Nintendo's US-only *3D Tetris*, the former adding a cylindrical puzzle mode to the traditional game and the latter rendering the blocks as 3D wireframe models. Meanwhile, *Tetris Blast* was released in 1996 for the Game Boy as a version of *Bombliss* that needed bomb pieces to clear lines, throwing in some dominoes and triminoes for good measure. This version had a cool tournament mode that placed blocks on the

BLOCK BUSTERS

The tetromino sequels that are worth your time

TETRIS: THE GRAND MASTER ▸

■ This arcade game was a chance for advanced players to prove how good their skills were. Rather than level up by clearing lines, players would see the level counter increase for each piece dropped and for every line cleared. The speed would rise and eventually pieces would instantly drop (at a speed known as 20G).

TETRIS DS ▸

■ As well as offering the standard game (albeit with 8-bit homages to other Nintendo titles on the top screen and endless rotating at the bottom), *Tetris* on the DS handheld console arguably picked up where the Game Boy *Tetris* left off. Its touch mode made good use of the stylus as you shifted blocks at the bottom to allow the creation of rows.

◂ PUYO PUYO TETRIS

■ The tile-matching game *Puyo Puyo* has long been popular in Japan, with blobs falling down the screen and players looking to match them by colour in groups of four to create huge combos. It's very strategic and tactical and, in a mash-up with *Tetris* (particularly in the Fusion mode), has formed a superb follow-up that heavily emphasises competitive play.

◂ TETRIS ATTACK

■ Released for Nintendo's Game Boy and SNES, this spinoff title includes the *Tetris* name and it sure has blocks in it. But they don't fall, nor are they made up of four squares, and so the overall package is, in truth, simply a match-three puzzle game that uses *Tetris* brand name to draw in fans. Still, it's great fun, with a single-player and multiplayer modes.

TETRIS GIANT ▸

■ From the tiny screen of the Game Boy to the colossal arcade machine that is *Tetris Giant* the puzzle franchise has come a long way. But although the fast onscreen action is highly attractive in this version (the grid on offer here is a chunky 6x7 rather than the usual 10x20), it's the humongous controllers, one red and one green, that truly catch the eye.

MAGICAL TETRIS CHALLENGE ▸

■ Produced by Capcom, this version features Disney characters but, more importantly, some nice innovations. The Temporary Landing System lets you see where a piece is heading, while the 'magical' mode lets you send hard-to-fit pieces of more than four blocks to opponents when you clear two or more lines. It also has great music.

◂ SUPER TETRIS 3

■ Created by Blue Planet Software for the SNES, *Super Tetris 3* was played to the traditional background tune of *Korobeiniki* and it not only allowed up to four players in a Familiss mode, it inserted a *Bombliss*-style game with Sparkliss and, crucially, amazed gamers with Magicaliss: create a line of a single colour and every other block with that shade would vanish.

◂ TETRIS BLITZ

■ Henk Rogers tells us that he wanted to get the gaming time of *Tetris* down to two minutes in this iOS and Android title as it meant it could be playable between train stops. *Blitz* also got you spending thanks to its freemium model but it made use of a great one-touch control system.

TETRIS PARTY DELUXE ▸

■ Offering lots of variations on *Tetris*, this Wii and DS title included a number of fun modes such as Field Climber which had players trying to get a tiny character to the top of the screen and Bombliss which hadn't been seen since 1993. The Sprint mode had you frantically trying to clear 40 lines in the fastest time possible. There was co-op versus co-op, too.

TETRIS ULTIMATE ▸

■ Released in 2014, this game marked the 30th anniversary of *Tetris* and it was developed for the Nintendo 3DS before being made available on the PlayStation 4, Xbox One, PlayStation Vita and Windows. It got top marks for its smooth online multiplayer, with up to seven players able to do battle. There were also time and marathon modes to tackle.

> "IT WAS HUGELY INTELLECTUAL AND I STILL ENJOY IT FROM TIME TO TIME"
>
> Alexey Pajitnov

field of play prior to the start of the game as well as a lovely battle mode which entailed destroying a creature – most satisfyingly by dropping blocks on its head. Meanwhile, a new puzzle mode was added for *Tetris Plus* where you needed to get a climbing professor to the bottom of the screen by clearing blocks from under him, trying hard not to crush his head on the spikes above.

None of those were anywhere near as odd and innovative as *Tetrisphere*. "That was a very strange project which I did with Ken Lobb, my friend at the time," says Alexey. "We'd worked at Microsoft together and he was really fascinated by the idea of *Tetris* of the sphere. But it was too complicated, even though it was interesting to work on."

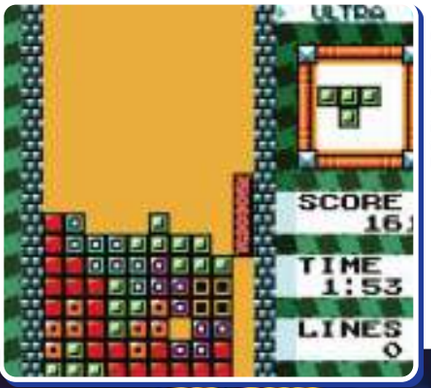
Developed by H20 Entertainment and published for the N64 by Nintendo of America, *Tetrisphere* was revolutionary and polished to near-perfection but it required a lot of learning. Perhaps for the first time, a game of *Tetris* was pushing the graphical boundaries of a machine. Wholly original, it revolved around a rotating ball that you pulled blocks off in layers to reveal enough of the core. "It was hugely intellectual and I still enjoy it from time to time," Alexey says.

Other N64 titles followed. *Tetris 64* was released in Japan and it was notable not just for allowing up to four players but for being the only game that ever made use of SETA's Biosensor, a device that connected to the controller's extension port and came with an ear clip. As daft as it would make you look, it measured the player's heartrate and altered the speed of the game depending on whether you were close to cardiac arrest or chilling. The concept was certainly more out there than, say *Tetris 4D* on the Dreamcast or *Kids Tetris* by Hasbro. *Tetris DX*, a version of the game for the Game Boy Color from 1998, was a little gem, however.

"For *Tetris DX*, Nintendo came to us with the Game Boy Color and asked if we could keep the same game," says Henk. "But we designed the ultra mode which built on the marathon mode by having a three minute time-limit. We called it ultra because there was a character in Japan called Ultraman who, when the world was going to hell, would have three minutes to defeat the monsters. It kind of became a new standard."

By now, of course, gaming had (one could argue, perhaps controversially) come on in leaps and bounds, so tiles falling and fixing into place could easily be seen as old hat(tris). *Tetrisphere* was proof that the concept could be modernised and tweaked, while still being faithful to the original, but there were other approaches to *Tetris* as it continued to prove a mainstay of gaming.

Just before the turn of the 21st century, for instance, the arcade was blessed with *Tetris: The Grand Master*, a chance for players to prove how accomplished they were by upping the ante. There was also *The New Tetris* for the Nintendo 64 that included real-time renders of famous buildings and a new gaming mechanic where you could make a four-by-four block that, when cleared, would generate many point-scoring lines. Players could also hold a piece that could be swapped with one that was falling and see the next three blocks for better



» [Game Boy Color] *Tetris* came to the GBC in the guise of *Tetris DX* which included a three-minute Ultra mode.

» [N64] *Tetrisphere* was a gorgeous-looking game putting a very different spin on the *Tetris* franchise.

HOW MUCH!?

A version of Tetris has collectors' wallets cowering in fear

In July 2011, an eBay seller created a listing for the Japanese Mega Drive version of *Tetris*. The Buy It Now price? A cool $1 million, but then this game – signed by Alexey Pajitnov, no less – is the most rare of all of the *Tetris* ports. With an estimated ten copies thought to exist in the entire world today, it's little wonder it is so highly sought after.

The reason there are so few units around is down to the licensing fiasco surrounding *Tetris* in its early years. Bullet-Proof Software had the rights to console versions of the game in Japan and so Sega's game – produced at the same time as the System-16 arcade version – was blocked from being sold.

The idea is that Sega then destroyed its production run but some copies leaked out. Whether or not that makes it worth such a high sum is open to debate, though. The seller – shinsnk – is thought to have originally bought the game for $16,000 four years previously and, in truth, that sounds about the right price.

» [N64] *Magical Tetris Challenge* combined *Tetris* with, well… magic, alongside a cast of Disney characters.

THE TETRIS EFFECT

The iconic puzzler heads into the world of virtual reality

According to a Harvard University study in 2000, 60 per cent of people who play *Tetris* for more than seven hours over three days end up seeing blocks falling after they stop playing. They also look at buildings and seek to move the blocks in their mind to complete lines, and even take to dreaming about those damned tetrominoes.

So what have the brains behind *Tetris* done? Well, licensed a trippy game called *Tetris Effect*, which is named after the phenomenon. What's more, the reigns have been handed to Enhance president and CEO Tetsuya Miziguchi, who created *Lumines* and *Rez Infinite*. It has been released for the PS4 with PSVR support and it infiltrates your mind like never before.

"The idea behind *Tetris Effect*, the game, is to amplify and enhance that same magical feeling where you just can't get it out of your head, and not just the falling shapes, but all the visuals, the sounds, the music – everything," Miziguchi wrote on the PlayStation Blog.

He says this is done by using background elements, audio, special effects and, last but not least, pulsating, dancing, shimmering, exploding, musical pieces. There's also more than 30 stages complete with music, characters and animation to provoke emotional responses and convey moods.

"SMARTPHONES INHERENTLY CHANGED HOW TETRIS IS PLAYED"

Maya Rogers

» [Arcade] *Tetris: The Absolute The Grand Master 2 Plus* – it's name is nonsensical and its difficulty takes no prisoners.

planning. Then there was *The Next Tetris* that had you clearing pre-placed blocks, introducing multicoloured pieces which really had you scratching your head. And, of course, *Magical Tetris Challenge*, developed by Capcom and starring Mickey Mouse, Minnie Mouse, Donald Duck and Goofy, it let you play seven variants of the game, with the upside-down mode being particularly good fun since every line you cleared was added to your opponent's pile. *Tetris Worlds* introduced the infinite spin where tiles could be rotated after touchdown.

In 2002, Henk launched Blue Lava Wireless to develop mobile phone versions of *Tetris* which he sold to Jamdat three years later, granting it an exclusive 15-year licence to publish *Tetris* on mobile phones. That power switched to Electronic Arts in 2006, the year *Tetris* for the iPod was launched, bringing it to yet another platform and a new market. Of greater note was the release of *Tetris DS* which followed a few *Grand Master* sequels and *Tetris Elements* (a game that let you import MP3 tunes and incorporated the natural world into *Tetris*). "With *Tetris DS*, we were able to put the game on another Nintendo handheld and they did a great job of implementing it," says Henk.

The DS version made use of the handheld's two screens and it was a delight for 8-bit gamers thanks to its themes based on *Donkey Kong, Metroid, Super Mario Bros* and the *Legend Of Zelda* among others. Tower mode had you using the touch features to free balloons by clearing a mass of pieces from the screen. The game also ended up in the Guinness World Records, this time as the first wireless *Tetris* game. It allowed ten players to compete locally or four via Wi-Fi.

T*etris* was on a high and, in recognition for his incredible contribution to gaming, Alexey was handed the First Penguin award (now the Pioneer Award) at the Game Developers Conference in 2006. *Tetris* also moved effortlessly from one generation to the next: come 2007 and *Tetris Splash* (complete with a watery theme and six-person online play) was launched on Xbox 360's Xbox Live Arcade, becoming the first game published under The Tetris Company's new subsidiary, Tetris Online.

By now, Henk' daughter, Maya, had joined Blue Planet Software and she headed up game development, global licensing, marketing, brand management and IP enforcement. She helped pushed *Tetris* into different directions. *Tetris Party* was released as WiiWare, for example, making the game playable via a Balance Board. EA pumped out *Tetris* for the iPhone and iPod Touch, while an online multiplayer *Tetris* went to the top in South Korea.

» [Wii] *Tetris Party* brought the puzzling madness to the Wii, and added a mode which let you control the action with the Balance Board add-on.

In 2010, *Tetris* debuted on the iPad and surpassed 100 million paid mobile downloads making it the best-selling mobile game for its time. "If you compare the original *Tetris* to what it is today, it's very different," Maya says. "Smartphones inherently changed how *Tetris* is played. There are now controls and it's all swipe touch. We work hard on prototyping and development to ensure *Tetris* is available on each new platform."

The *Tetris* guidelines are still in place and steps are taken to ensure they're adhered to. "We're technically a licensing company and so we licence our IP to different developers, looking at whether they are the right partnership for that market," Maya continues. "We work with their development team and train their QA department to teach them what has to be done and what can be done. We spend a lot of time talking about what *Tetris* is today and what's been done in the past, brainstorming ideas for new platforms."

Some of those have included experiments in augmented reality such as in *Tetris Axis* for the 3DS. Games have been produced for Facebook such as *Tetris Battle* and *Tetris Stars*, allowing for online play. Electronic Arts worked on the ultimate casual *Tetris*, *Tetris Blitz*, by ensuring games would last for just two minutes at a time. But while the hunger for platforms has even seen *Tetris* appear on the Amazon's Fire TV and Ouya the biggest breakthrough has been *Puyo Puyo Tetris* in 2014. "That's been developed by Sega and it's on every console under the sun," says Maya.

Puyo Puyo Tetris was originally rolled out in Japan for the 3DS, Wii U, PS Vita and PS3 before getting an outing on the Xbox One, PS4 and Switch. It made its way to North America and Europe last year and it's sensational, combining the styles of Japanese favourite *Puyo Puyo*, a tile-matching game, with *Tetris* in the Fusion mode. It's fast-paced and competitive with blocks and puyos alternating on the game board and dollops of strategy involved. And then the innovative *Tetris Effect* brought the classic game to VR and widespread critical acclaim once again.

Still, there's still a concern about clones. "*Tetris* is one of the most copied games in the world and we spend time cleaning up the landscape," Maya says. Asked whether those clones have ever led to fresh ideas, she adds: "It does happen and they end up becoming a licensee but I would say most of the time we've already thought of it."

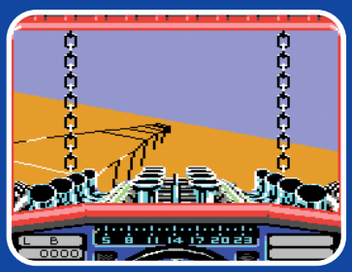
Still, at least it shows there's interest. To date, there have been around 500 million mobile downloads ("As far as the bank goes, that's my favourite," laughs Henk). People are also getting better at the game: American Kevin Birrell became the first player outside of Japan to achieve grandmaster status in *Tetris: The Grandmaster 3* in 2015. But it must keep fresh. "Our vision now is how do we keep *Tetris* going for the next 30 years?", Maya says. We're sure they'll find a way. ✱

» [Xbox] *Tetris Worlds* offered a host of new modes alongside four-player multiplayer.

» [PS4] *Puyo Puyo Tetris* is a great mashup of franchises – we still play it competitively in the office.

TOP 25 COMMODORE 64 GAMES OF ALL TIME

How do you decide the best games for the Commodore 64? Do you focus on exclusives, arcade ports, or original ideas? Do you champion the obscure, or back the bona fide classics? After weeks of deliberation, we simply passed it over to members of the forum, and saved ourselves a massive headache...



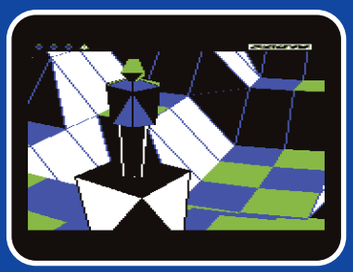
Stunt Car Racer

■ **Year:** 1989
■ **Publisher:** MicroStyle

25 **It's a testament to Geoff Crammond's skill as a coder that two of his three C64 games made your list. *Stunt Car Racer* managed to combine Geoff's love of physics with the thrills and spills of the arcade racers that were popular at the time.**

Yes, it's not as good as the Amiga version, but in many ways *Stunt Car Racer* remains an astonishing achievement on the C64 thanks to its slick engine, carefully crafted track design and wonderfully tight controls.

Even today, *Stunt Car Racer* is fun to play, largely because of the aforementioned physics and intricate track design, which have really stood the test of time. You're required to learn every inch of the track in order to master it, but the sense of achievement you receive when you do is unmatched.



The Sentinel

■ **Year:** 1986
■ **Publisher:** Firebird

24 **Although best known for his racing games, Geoff Crammond wasn't afraid to step out of his comfort zone in order to deliver genuinely engaging experiences.**

The Sentinel is arguably one of his most surreal and imaginative games, offering a cerebral challenge that few other titles on the C64 can match. Indeed, from the moment you witness Bob Stevenson's iconic loading screen, you know you're about to play something special.

Using the absorbing skills of your Synthoid, you must reach the highest point of each of the 10,000 levels and absorb the titular Sentinel without it spotting you. Interestingly, the slow drawing process of the C64 version – compared to its 16-bit counterparts – actually added to the game, creating an unbearable tension that, in turn, made it utterly unique. It was simply masterful, and highly challenging.

Boulder Dash

■ **Year:** 1984
■ **Publisher:** First Star Software

23 **First released on Atari's 8-bit range of computers, *Boulder Dash* would go on to have massive success across a staggering range of home computers and consoles. The C64 version was no different, and it remains one of the best puzzle games on the system, thanks to the super-cute hero Rockford – who became so popular that he infiltrated the pages of *Zzap!64* – as well as the deviously designed mazes that developer Peter Liepa created.**

While it shared many similarities with Taito's obscure arcade game, *The Pit*, Liepa's *Boulder Dash* nevertheless stood proudly on its own two feet. It enhanced Taito's formulae by introducing all manner of new gameplay mechanics: the huge, multi-scrolling stages filled with precious diamonds for Rockford to collect, and deadly hazards for him to avoid. It's a timeless classic.

> "Super-cute hero Rockford became so popular that he infiltrated the pages of Zzap!64 magazine"

Barbarian: The Ultimate Warrior

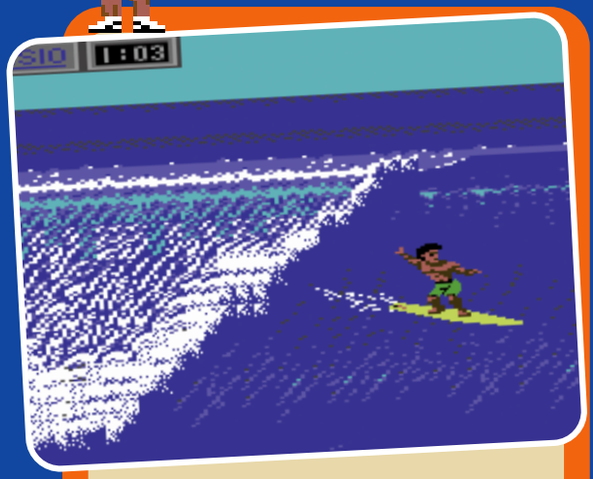
■ **Year:** 1987
■ **Publisher:** Palace Software

22 **Even without that infamous cover, starring a scantily-clad page three model, *Barbarian: The Ultimate Warrior* was always going to be a rip-roaring success. Heavily inspired by Frank Frazetta's stunning fantasy art and *Conan The Barbarian*, Palace Software dreamt up a beautifully brutal fighter that, in addition to still playing brilliantly, also managed to offer a sense of danger that, even now, can't be beaten.**

We are of course talking about the infamous decapitation move that would immediately end a battle should you get the timing right. While tough to pull off against later computer, or human, opponents, the sense of satisfaction it offered remains unmatched. Steeped in atmosphere and with a rich sense of black humour – the goblin booting a head off screen never fails to raise a smile – *Barbarian* remains an excellent fighter and one of the best 8-bit brawlers on any system.

TOP 25

COMMODORE 64 GAMES OF ALL TIME



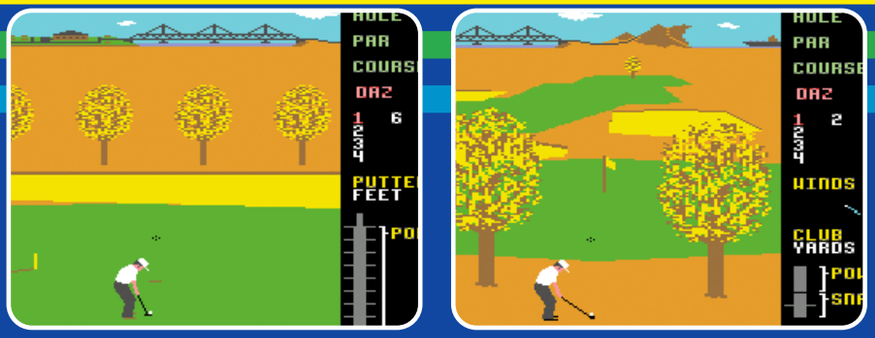
California Games

■ **Year:** 1987

■ **Publisher:** Epyx

21 **Epyx released a number of classic sports games for the C64, but this sterling effort from 1987 is the one you all appear to love the most. Although it didn't offer as many events as its predecessor, *World Games*, *California Games* nevertheless managed to impress gamers thanks to its excellent animation, super presentation and the sheer variety found in the six included events: which ranged from half-pipe and roller skating to surfing, footbag and frisbee throwing.**

As with past games in the series, accessibility and easy to follow instructions were the key to *California Games*' success, with each event being easy to learn, but difficult to master. Learn it you would, though, if only so you could completely hammer (up to seven) friends' attempts on each event. As bright and breezy as the state it was based on.



Leaderboard

■ **Year:** 1986

■ **Publisher:** Access Software

20 **With many in the gaming world now obsessed with the yearly antics of Tiger Woods and the PGA, it's easy to forget that it all started with Access Software's sublime *Leaderboard*. Now, admittedly it wasn't the first ever golf game to appear on a home micro, but it's hard to remember a version that was this comprehensive and accessible.**

Leaderboard had everything you'd expect from a cutting-edge golf game. There were four exceptionally detailed courses to choose from, three modes: Novice, Amateur and Professional, and 14 distinct types of clubs, making it an amazingly comprehensive package. By far the best aspect of *Leaderboard*, though, was its excellent control mechanics, which gave you a previously unseen amount of control when striking the ball.

It's long been surpassed by other golf games, with the developers going on to create the excellent *World Class Leaderboard*, but the original still remains the perfect example of a title that transcends its typical audience to appeal to an even larger group of people.

The Way Of The Exploding Fist

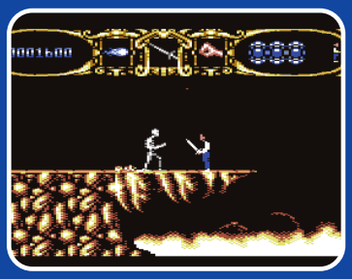
■ **Year:** 1985

■ **Publisher:** Melbourne House

19 **From the moment you first laid eyes on *Fist*, it was obvious where its inspiration had come from. It was clear to reviewers as well, many of who proclaimed it to be the best version of *Karate Champ* they'd ever played, despite the fact that it was a standalone effort.**

Yes, there were obviously similarities between both *Fist* and *Karate Champ*, but we'd argue that Beam Software's effort was the better game. For starters, it looked fantastic, with super-slick animation that gave the on-screen combatants plenty of life. While it was unable to match the impressive number of moves found in *Karate Champ*, it still featured a decent repertoire, all of which you would have to master if you wanted to reach the later stages and achieve the revered tenth Dan rank.

The Way Of The Exploding Fist was the first home computer fighting game to genuinely feel as slick as its arcade counterparts, and remains a fun, tactical little fighter.



Myth: History In The Making

■ **Year:** 1989
■ **Publisher:** System 3

18

System 3 could seemingly do no wrong on the C64, with its 12 reviewed games in *Zzap64!* receiving an average score of 90 per cent. Of course, when you consider games like *Myth*, those high scores begin to make sense.

Myth: History In The Making was a truly epic adventure that eschewed the distinct isometric approach of System 3's games for a more traditional side-on scroller that saw its hero battling all manner of mythological creatures as he travelled through time.

Initially armed with just his fist and feet, the unnamed hero was able to gain access to a variety of different weapons as his adventure progressed. Weapons were needed as well, as *Myth* could be tough in places, requiring deft reflexes to survive. You'd battle on, though, as Peter Baron and Bob Stevenson had created a truly stunning game, with huge multi-load levels that perfectly captured the mythology that it was inspired by.

Delta

■ **Year:** 1987
■ **Publisher:** Thalamus Ltd

17

When it came to shoot-'em-ups the C64 was untouchable. Thanks to its super fast scrolling, it was able to recreate an arcade-like experience that its 8-bit peers often struggled to match, and as a result, it had many great exclusives.

One such example was Thalamus's *Delta*, an impossibly slick horizontal-scrolling shooter that boasted highly stylised graphics, challenging attack patterns and ridiculously huge bosses. Fuelled by a suitably manic score from Rob Hubbard (there was even a sound mixer for creating your own tune while the game loaded) *Delta* featured a fun power-up system where you collected credits to boost various aspects of your ship, a nice take on the mechanics that were popular at the time.

It suffers now from relying a little too much on memorising attack patterns, and ensuring you have the right weapons for the right areas, but this is a fault that can also be levelled at Konami's *Gradius* (which *Delta* is very similar to).

"Thanks to its super fast scrolling, the C64 could recreate an arcade-like experience"

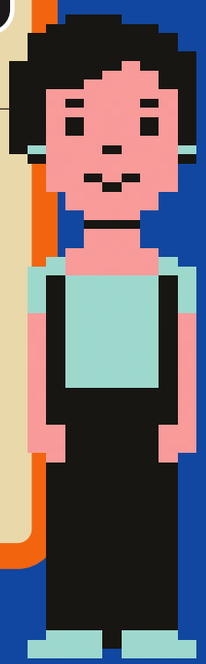
Maniac Mansion

■ **Year:** 1987
■ **Publisher:** LucasFilm Games

16

If you read our exhaustive 'Making Of' in issue 94, you'll know just why LucasFilm's superb game made this list. If you didn't, then allow us to illuminate you. Created using the now legendary SCUMM engine, *Maniac Mansion* saw three kids exploring the titular house in search of a missing cheerleader called Sandy – discovering a bunch of wacky protagonists and devious puzzles on the way.

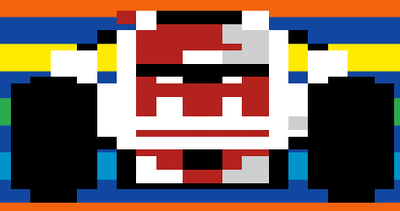
Creators Ron Gilbert and Gary Winnick were given free rein over *Mansion*'s creation, and it can be seen in every nook and cranny of the huge house you have to explore. Characters are memorable and spout genuinely amusing zingers, the puzzles are extremely well thought out, while the intelligent cursor makes it incredibly easy to manipulate your surroundings and interact with the objects and characters. A genuinely entertaining adventure that needs revisiting.



TOP 25

COMMODORE 64 GAMES

OF ALL TIME



Last Ninja 2

- **Year:** 1988
- **Publisher:** System 3

15 **There was more to *The Last Ninja*'s hit sequel than just a change of scenery and location, much more. For starters, it was a massive graphical improvement over the already impressive original, with detailed locations from John Twiddy that perfectly captured the atmosphere of New York. Technically impressive, skyscrapers soared ever upwards, levels were packed with detail and the Last Ninja and his counterparts featured far better animation than their critically acclaimed predecessor. Add in an extremely atmospheric soundtrack from Matt Gray and System 3's sequel was an aesthetic delight.**

But there was more to *Last Ninja 2* than just pretty visuals; its gameplay had improved significantly to its predecessor as well. The vast majority of *Last Ninja 2*'s gameplay still revolved around you seeking out specific items that would give you access to the next beautifully detailed area, but the puzzles were far cleverer than they were in *The Last Ninja*. Combat and jumping were also greatly improved as well, not requiring the pixel-perfect timing that plagued the original game. It still suffers from the clunky controls of the original, and many preferred the oriental setting of part one, but System 3's sequel remains a shining example of subtly improving on an already great concept.

Buggy Boy

- **Year:** 1987
- **Publisher:** Elite

14 **Considering how popular arcade conversions were on the 8-bit systems, only two conversions have actually made your list. The first is Elite's port of Tatsumi's *Buggy Boy*. The second… Well you'll find out in a couple of pages.**

What's interesting about *Buggy Boy* is that while it struggles to capture the bright and breezy cartoon visuals of the original arcade game, it nails the actual gameplay, delivering a conversion that *feels* like Tatsumi's popular racer, even if it isn't identical. Perhaps realising that the C64 was never going to accurately recreate the thrills and spills of Tatsumi's racer, Elite instead tried to make the best possible racer that it could – the end results were impressive to say the least.

Dave Thomas' slick coding allowed for some brilliantly precise handling that made controlling your buggy a lot of fun. The scrolling was extremely smooth as well, and it ran at a great speed, delivering an excellent off-road racing experience that few other games could match. It may have only boasted five courses, but the finely honed gameplay kept you going back for more.

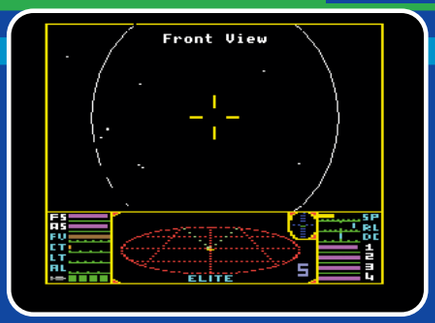
> "Trenz delivered a stunning masterpiece that effortlessly improved on his original game and made the jaws of non-C64 owners drop to the floor"

Turrican II: The Final Fight

- **Year:** 1991
- **Publisher:** Rainbow Arts

13 ***Turrican* was an amazing C64 game that made developer Manfred Trenz a household name. A sequel was inevitable as night following day, but how do you improve on such a killer formulae? If you're Manfred Trenz, you make everything bigger, bolder and better than before and included another storming score from Chris Hülsbeck. Oh, and you add an excellent shoot-'em-up level into the mix as well.**

Turrican II is trashy, excessive, over-the-top, but most of all is fun. After honing his coding skills on the likes of *Denaris*, *Katakis* and the original *Turrican*, Trenz delivered a stunning masterpiece that effortlessly improved on his original game and made the jaws of non-C64 owners drop to the floor. Filled with the sort of kinetic action that was readily available in the arcade games that Manfred so loved, and featuring some truly mind-blowing enemies (the final boss towers three screens high) *Turrican II: The Final Fight* was a technically accomplished videogame that had great gameplay to back up its stupendous visuals. A perfect sequel that improves on the original in every possible way.



Elite

■ **Year:** 1985
■ **Publisher:** Firebird

12 **We were somewhat surprised to see *Elite* just outside the top ten, as the C64 version is widely regarded as one of the best iterations of the game. Surprise aside, it's still easy to see why *Elite* charted so highly, because it remains a phenomenal achievement, squeezing an amazing universe of possibilities into just 32k.**

The C64 version arrived some eight months after the original BBC version, but made up for its tardiness with additional 'special missions', the inclusion of Trumbles (a homage to *Star Trek*'s Tribbles), and a rendition of The Blue Danube Waltz, which plays whenever you dock. Bugs had also been eradicated, giving C64 owners a more solid version that was only really let down by its slower running speed.

Fortunately, *Elite*'s focus on exploration meant that the slower pace wasn't an issue and it went on to be spoken of in the same revered tones as its BBC predecessor. A true classic that paved the way for future flight simulators and open-world games.

The Last Ninja

■ **Year:** 1987
■ **Publisher:** System 3

11 **We're guessing that nostalgia, rather than common sense, is the main reason *The Last Ninja* sits higher than its superior sequel. Having said that, it's still an expertly crafted adventure and it's a testament to developer John Twiddy that no other game featured in your list along with its sequel.**

The multi-load adventure was set across six distinct areas and saw the titular ninja, Armakuni, trying to defeat the evil shogun, Kunitoki. As with its sequel, *The Last Ninja* featured a healthy mix of exploration and combat, but was let down by some truly obscure puzzles and tricky jumping sections that still have us wailing with frustration whenever we attempt them.

And yet John's game still does a lot right, thanks to its incredibly atmospheric levels, gorgeous design and an incredibly slick engine, which in many ways feels like the sort of 3D world that Ultimate created for the humble Spectrum. Even with its many niggles, there's no denying the appeal of System 3's game and it's little surprise that it remains to be held in such high esteem. What a pity that we're never likely to see Armakuni go on any future adventures.

Kikstart II

■ **Year:** 1987
■ **Publisher:** Mastertronic

10 ***Kik Start* was a huge success for Mastertronic, proving that a £1.99 game was just as good (and sometimes better) as a full-priced release. Shaun Southern's sequel blew the already excellent original out of the water, delivering far better visuals, more courses, and best of all, an utterly superb level editor.**

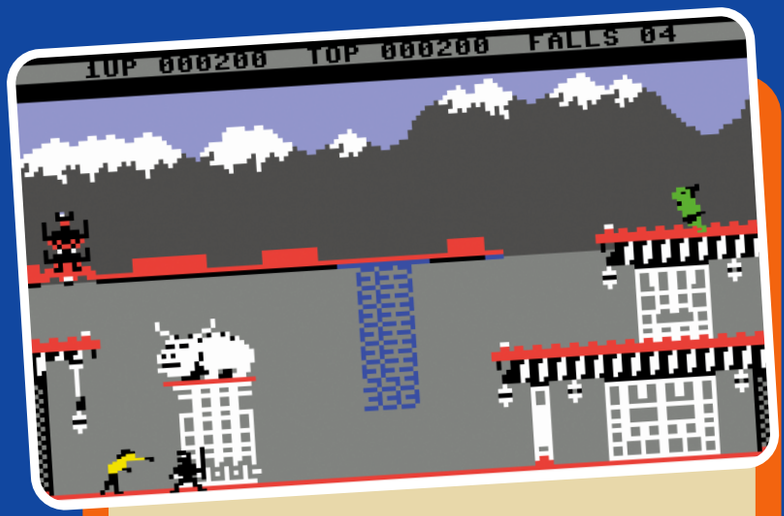
Gameplay-wise *Kik Start*'s sequel is very similar to the original, with you (and another player in the excellent verses mode) racing across five chosen courses as quickly as possible. This time, though, the controls had been greatly refined, allowing for far better precision, which made it a lot easier to judge the speed to tackle certain hazards at. Yes, it can be annoyingly fiddly, but the sense of satisfaction you receive on a flawless run is immense.

And let's not forget *Kik Start II*'s sprawling level editor. Sure, it takes a little while to get to grips with it, but once mastered you increase *Kik Start II*'s appeal tenfold. 24 courses was already a massive improvement on the eight found in *Kik Start*, but Shaun's comprehensive level editor meant it would last as long as your imagination did.

TOP 25

COMMODORE 64 GAMES

OF ALL TIME



Bruce Lee

■ **Year:** 1984

■ **Publisher:** US Gold

9

A Bruce Lee game about collecting lanterns sounds like a recipe for disaster, but the reality couldn't be further from the truth.

Bruce Lee, like *Boulder Dash*, started off life on the Atari 8-bits, before moving over to other systems. It's an interesting hodgepodge of genres, successfully combining – admittedly limited – fighting moves with fluid, fast-paced platforming. It works well, with Bruce having to rush around each stage collecting lanterns in order to reach the next area. Spanners are thrown in the works with the inclusion of a lithe ninja, and the Green Yamo, who continually chases Bruce around the beautiful levels.

One of the best aspects of *Bruce Lee*, which still holds true to this day, is the way you can approach each stage. Do you simply pummel your way to victory or rely on simple speed? Either way, the end result is a masterful hybrid that's still resounding fun to play.

"It was never going to win awards for its minimalist visuals, but it delivered an authentic world"

Thrust

■ **Year:** 1986

■ **Publisher:** Firebird

8

Like many hit 8-bit games, Firebird's *Thrust* owes its creation to a classic arcade game – in this case, *Gravitar*. In many ways, though, Jeremy Smith's offering is a far better videogame, subtly taking elements from the arcade original template, but stamping its own ideas all over it.

Thrust was never going to win awards for its minimalist visuals, with many gamers and reviewers calling it dated on its release, but Jeremy's focus wasn't on cutting-edge graphics, it was on delivering an authentic world for your spacecraft to explore – a task he achieved easily.

Thrust required you to do little more than explore the alien terrain and recover a set-number of fuel pods. The snag here, however, was that you had to get used to both *Thrust*'s realistic physics and deviously placed enemy ships. Part puzzle, part shooter, *Thrust* required you to be quick on your trigger finger while mastering your ship's delicate control system. It's a beautiful marriage of mechanics that still stands the test of time.

Bubble Bobble

■ **Year:** 1987

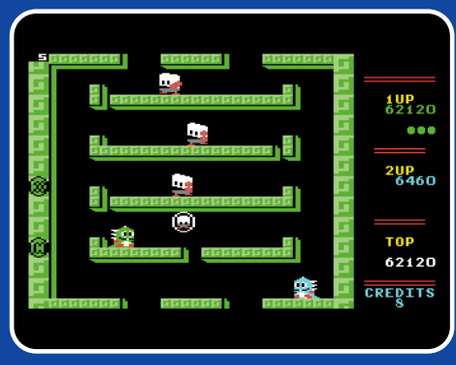
■ **Publisher:** Firebird

7

24 years after its original release and we still can't believe that Ste Ruddy was able to cram Taito's hit coin-op into the C64. Even after he revealed all in issue 95, it remains a phenomenal achievement, even if it isn't quite as arcade perfect as many made it out to be at the time.

In 1987, though, *Bubble Bobble* on the C64 felt like a revelation. Ste Ruddy's conversions was simply astonishing, with great sprite work, authentic level design and plenty of secrets that had been tucked away in the original arcade game. He even managed to get one of the secret levels in, bless him – impressive work when you consider that Ste had no inside help at all from *Bubble Bobble*'s original creators, and had to base all his experience on his own play-throughs. Ste's stupendously good work is further complemented by a wonderfully authentic version of the unmistakable theme tune from Peter Clarke, which adds further to an already excellent conversion. *Bubble Bobble*'s sequel also received a fine conversion (from Graftgold), but it still couldn't top Ste's effort with the original game.

In short, we'd argue that *Bubble Bobble* is the best arcade conversion on Commodore's machine, and judging by the sheer number of you who voted for it, it would appear that you're in complete agreement.



Armalyte

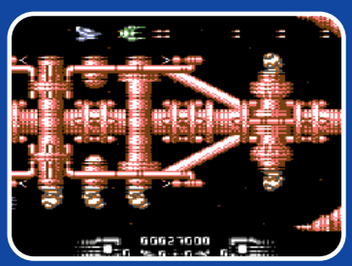
■ **Year:** 1988
■ **Publisher:** Thalamus Ltd

6

***Armalyte* is further proof that the C64 was the computer to own if you loved shoot-'em-ups. From its metallic-tinted visuals to its awesome boss designs, everything about *Armalyte* screams epic. Coded by Dan Philips and John Kemp, with graphic duties by Robin Levy and a punchy soundtrack from Martin Walker, *Armalyte* is a gorgeous game that calls to mind classic arcade hits such as *Nemesis* and *Salamander*.**

More importantly, however, *Armalyte*'s game design is every bit as meticulously designed as its scintillating visuals. Enemies are cleverly placed, offering a stiff, but not overtly unfair, challenge, while the actual level design is superb, offering plenty of areas where pinpoint movement is just as important as shooting accuracy. Power-ups are also of a high standard, and while they're not original, they all pack a meaty punch and are extremely satisfying to use.

Armalyte may not be very innovative, but it's an expertly crafted shoot-'em-up with a timeless quality to it. The fact we still regularly play it is all the proof of its excellence that you need.



Impossible Mission

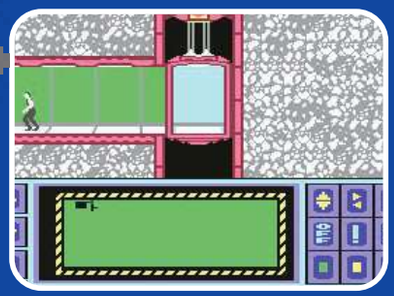
■ **Year:** 1984
■ **Publisher:** Epyx

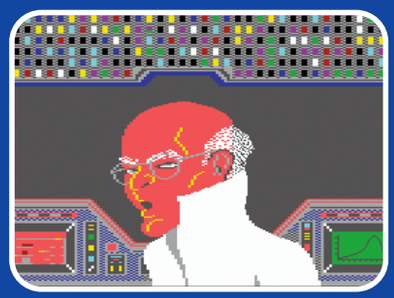
5

Even today, Elvin Atombender's infamous taunt "Another visitor. Stay a while… Staaaay forever!" sends a tingle of excitement down our spines. Created by Dennis Caswell in 1984, *Impossible Mission* was an atmospheric romp that saw Agent 4125 leaping and somersaulting his way through Elvin's labyrinth-like complex in search of missing password pieces that, when assembled, would allow the agent access to the main control room.

It's not an easy task, though, as the diabolical genius has scattered the pieces all over his lair. Worse still, vicious robots guard many of the lifts and platforms, and Agent 4125 must either athletically leap over them or deactivate them via the many computers found on each screen.

Add in a strict six-hour time limit (with every death knocking ten minutes off the clock) and *Impossible Mission* became a frantic race against time. Numerous ports and sequels followed, but Agent 4125's original adventure remains his best.





Uridium

■ **Year:** 1986
■ **Publisher:** Hewson

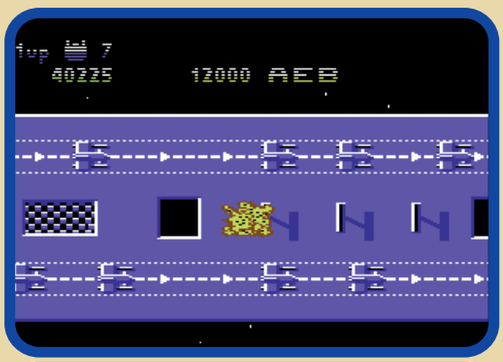
4

To many C64 owners, Andrew Braybrook is a god, a coding god, of course, but a god nonetheless. While he occasionally dabbled with other systems, his mastery of the C64's innards was legendary, and he delivered a number of super-slick games that felt just as polished as those you'd seen in arcades.

Uridium scored an astonishing 99 per cent for its graphics when it was reviewed in issue 11 of *Zzap!64*. It's a near-perfect score, but totally understandable when you witness what Andrew was making the C64 pump out. Impossibly fast, silky smooth scrolling combined with gloriously detailed Dreadnoughts and stylish-looking ship sprites to create an awesome game that still impresses today.

It was *Uridium*'s meticulously designed gameplay that most remember, though, with your Manta-class Space Fighter effortlessly gliding over the huge Dreadnoughts and taking down the hordes of opponents that constantly assaulted you. It wasn't just the Dreadnaught's fleet that caused issues, though, as the battleship itself also had to be contended with. Each of the 15 huge ships had various outcroppings on them that couldn't be destroyed, meaning you had to fly around them to avoid losing a life. It's a great mechanic that really heightened the feeling of flying over a huge ship and made for terse bombing runs. Fortunately, your fighter was more than up to the difficult task thanks to being highly manoeuvrable and a joy to control. Take down the Dreadnought's many gun emplacements, land your ship – no easy task in itself – and you'd get to repeat the process against an even tougher adversary.

Even now, some 25 years after its original release, *Uridium* remains a breathtaking shooter to play, with a timeless quality that few other C64 shoot-'em-ups can boast. It's proof to Andrew's skill as both a coder and a game designer that he's the only developer to have two games in your top five.



TOP 25
COMMODORE 64 GAMES
OF ALL TIME

International Karate +

■ **Year:** 1987
■ **Publisher:** System 3

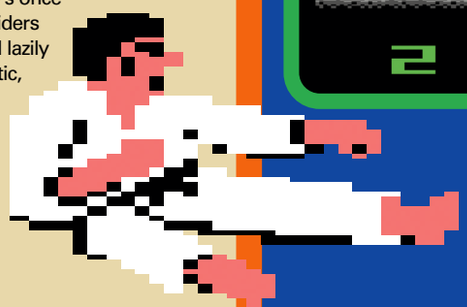
3 **It's easy to forget the understated genius of Archer Maclean's sequel to the acclaimed *International Karate*. For the uninitiated, all he did was add a third fighter to an already great game – and that's pretty much it. The reality, of course, is that there was far more to Archer's sequel than just that additional fighter, but it's amazing how such a seemingly straightforward idea could help lift it above so many other examples of the genre. In fact, we'll go as far as to say that *IK+* is the best 8-bit fighter, full stop.**

By far the most astonishing aspect of *IK+*'s third pugilist is that we've never seen the mechanic emulated elsewhere with the same dazzling effect. Sure, there are games like *Powerstone 2* that take the idea to its natural three-dimensional conclusion, but from a 2D standpoint? We just can't think of a decent example at all.

One of our favourite aspects of *IK+* is just how expressive and animated the new fighters were. Archer's sequel added stomach kicks, a dangerous head butt, and several other moves to the standard *International* roster, turning combatants into truly dangerous opponents. Archer also included an exceedingly useful backflip (inspired by watching *Grease*) that allowed fighters to get out of trouble if things became too dangerous. The frantic on-screen fisticuffs were backed up by another magnificent score by Rob Hubbard (who had also worked on the original), while even the referee had more to do in Archer's blistering sequel.

Originally assigned to the background, he now pops up during matches to report on the current scores and give encouragement to players. It's a mechanic that works surprisingly well, spurring on the player to greatness, even when he's trailing by a full point. Last, but by no means least, was a new bonus round that saw your player deflecting an increasing number of bouncing balls. As the round continued the speed and trajectory of the balls increased, requiring amazing reflexes to net the best scores.

Despite the sheer amount of action that Archer had packed into his sequel, he still wasn't satisfied, and he began tinkering with *IK+*'s once static backdrop. Fish randomly leapt from the water, spiders would dangle down from overhead beams, gulls would lazily fly across the sky; it all helped *IK+* to not only feel realistic, but also alive.



Wizball

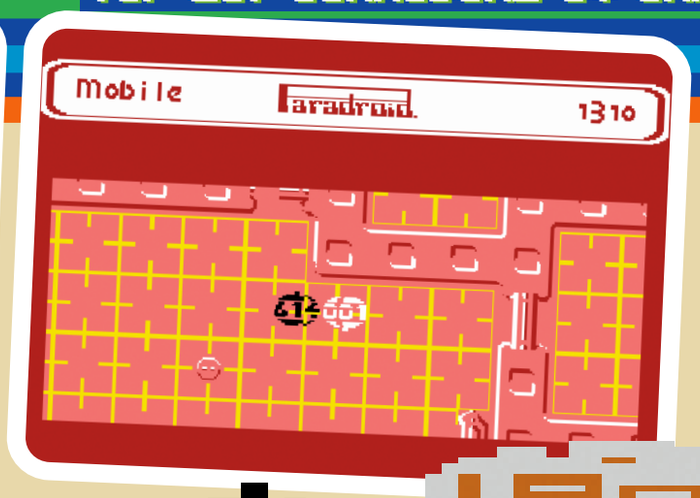
■ **Year:** 1987
■ **Publisher:** Ocean Software Ltd

2 ***Wizball* is one of our favourite ever C64 games, so it's gratifying to see it chart so highly. Part platformer, part shoot-'em-up (with a healthy leaning towards the latter genre), *Wizball* remains a fantastic game that never fails to impress.**

After the evil wizard Zark leeches Wizworld of its vibrant colour, Wiz and his pet cat Nifta attempt to restore the now drab world to its former colourful glory. This involves Wiz jumping in his titular Wizball and moving around the drab, monochromatic world while avoiding hazards and taking down waves of enemies. One of the most delightful aspects of *Wizball* was just how well its mechanics worked. Initially, you can only bounce around, which more often that not can get you into all sorts of trouble. As you shoot down waves of enemies they will leave pearls behind, which in turn light up seven distinctive power-ups.

A quick waggle of your joystick will select said power-up which can range from more powerful firepower, to thrust, and anti-grav: which gives you far better control over your spherical craft. Last, but by no means least, is the Catalyte, which enables you to switch control to Wiz's cat Nifta, so you can mop up droplets of colour as they fall to the floor.

It's a delightful system, fully controlled by the joystick, which easily captures the arcade experiences that were so popular at the time. It's also beautifully balanced, requiring you to switch between shooting and collecting in order to get through the eight large game worlds. Highly original – few other games have even tried recreating its magic formulae – it's a game that would work brilliantly on today's popular handhelds. For some, *Wizball* is a hardcore shooter, while others prefer its puzzle and co-op elements. Regardless of the type of game you think *Wizball* is, there's no denying that there's nothing else on Commodore's machine which is quite like it.



Paradroid 001

1

■ **Year:** 1985
■ **Publisher:** Hewson

Andrew Braybrook's *Paradroid* is a masterpiece, there's no other way to describe its sheer brilliance. Like *Wizball*, *The Sentinel* and many other games in this list, it's based upon the simplest of ideas, but Braybrook managed to make everything about it feel so much more epic. As with *Wizball*, at first *Paradroid* appears to be nothing more than another simple-looking shoot-'em-up. Look deeper, though, and you'll discover that it's so much more than that, offering a healthy blend of different genres that not only manage to keep the gameplay fresh and exciting, but most importantly, keep you going back for more.

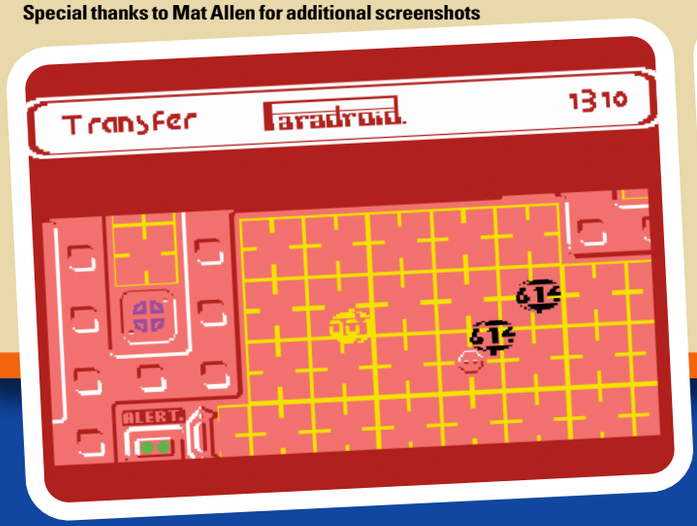
This is partly down to Braybrook's exceptional skill as a coder. As with *Uridium*, *Paradroid*'s coding is faultless, delivering impossibly slick scrolling and brightly designed play-fields that allow you to become totally immersed in the on-screen action, and prove to your non-C64-owning friends that they had backed the wrong horse. There are no niggles in *Paradroid*, no annoying little bugs to distract you from its absorbing gameplay; just a coherent, well put together world that draws you in to its murky depths and refuses to let you go. Andrew was a fervent arcade player back in the day – he still owns the original coin-op of *Rainbow Islands* – so it's no surprise to learn that both *Uridium* and *Paradroid* have the sort of slick presentation that was abundant in the popular arcade games of the time. In short, *Paradroid* is the arcade game you never got to play. Play it you will, though, because from the moment *Paradroid* sinks its claws into you, it refuses to let go.

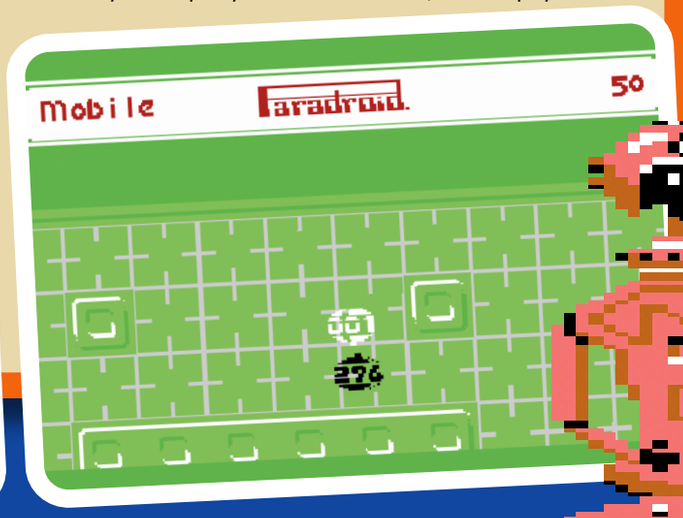
Paradroid is set on a huge multi-tiered spaceship that is overrun with hostile droids. The player takes control of a unique droid called the Influence Device, and has the task of destroying all the other droids found on the spaceship's 20 decks. All the other droids are far more powerful than your little Influence Device, as noted by the up to three digit numbers found on their sides. In comparison, the Influence Device has a rating of just 001, meaning it can easily be taken out by virtually every other droid.

Fortunately, while the Influence Device isn't too hot in a gunfight, it does have the handy ability to take over another droid by 'linking' to them. Once 'linked' to a droid – of which there are 23 distinctive types – the Influence Device earns all the skills and firepower of the droid in question, making its task far easier to complete. It's worth noting, though, that you can only control a droid for a limited amount of time, so *Paradroid* requires you to play aggressively, constantly hunting down weaker droids with your weaponry of using your 'link' powers to control stronger opponents. Even the linking isn't easy, though, as you need to complete a surprisingly complex mini-game first, which gets harder and harder as the droids get stronger and stronger. It's also worth nothing that linking to stronger droids isn't without its risks. Fail to successfully 'link' and your host droid will be immediately destroyed. Fine if you're already in another droid, but not so good if you're the Influence Device, as it immediately results in the game's end. As a result, *Paradroid* features a great risk and reward system where you have to gauge the best way to dispose of each droid that you encounter.

Highly influential, its possessing mechanic has featured in everything from *Space Station Silicon Valley* to *Messiah* and *Mind Jack*. *Paradroid*, for us, is the zenith of C64 gaming, and is a title that every gamer, C64 owner or otherwise, needs to play.

Special thanks to Mat Allen for additional screenshots





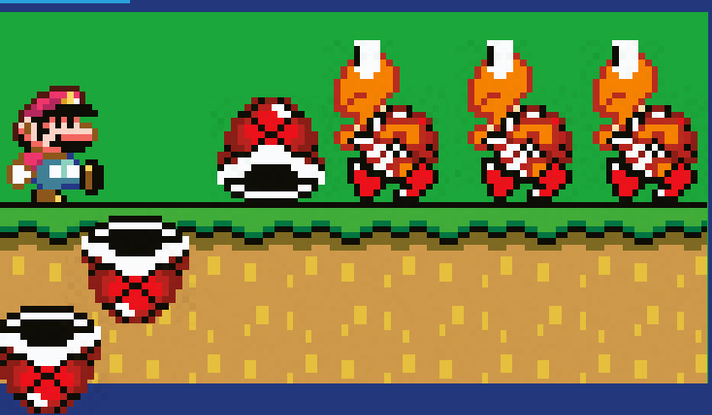
10
GREATEST
SUPER MARIO
MOMENTS
POW

The Super Mario Bros. series has been defining gaming for over 30 years. We've selected ten of your favourite moments from the Eighties and asked developers to share their memories about the evergreen franchise

Mario is easily one of gaming's most iconic and recognisable figures. While he's been around since 1981 in the guise of Jumpman, it wasn't until he became super in 1985 that gamers really started to take notice of the mustachioed plumber.

When Shigeru Miyamoto created *Super Mario Bros.* he also effectively recreated the platformer, creating a template that would not only shape the later *Mario* games for many years, but also platformers in general. Nintendo would again change the goalposts in 1996 with *Super Mario 64* and while other contenders have come close, no current developer is making 3D platformers that can compete with the likes of *Super Mario Galaxy* and *Super Mario 3D World,* in short Mario is the king at what he does and it's a fact that's unlikely to change any time soon.

But we've covered Mario's history in the past (in issue 82) so for this bookazine we wanted to look at why the *Super Mario Bros.* series is so popular with gamers by looking at the franchise's earliest games from the Eighties. There's a reason why *Super Mario* games have sold nearly 300 million sales and it's because they're some of the most inventive and well-designed games of their genre. But don't just take our word for it, the following moments are some of your favourites from the decade and we've also persuaded a large number of classic developers to share their personal memories too. Enjoy!



DEFINITIVE SUPER MARIO BROS. TIMELINE

The games Nintendo considers to be part of the series

SUPER MARIO ODYSSEY 2017
NINTENDO SWITCH

SUPER MARIO MAKER 2015
NINTENDO WII U

SUPER MARIO 3D WORLD 2013
NINTENDO WII U

NEW SUPER MARIO BROS. U
NINTENDO WII U

NEW SUPER MARIO BROS. 2 2012
NINTENDO 3DS

SUPER MARIO 3D LAND 2011
NINTENDO 3DS

SUPER MARIO GALAXY 2 2010
NINTENDO WII

NEW SUPER MARIO BROS. WII 2009
NINTENDO WII

SUPER MARIO GALAXY 2007
NINTENDO WII

NEW SUPER MARIO BROS. 2006
NINTENDO DS

SUPER MARIO SUNSHINE 2002
GAMECUBE

SUPER MARIO 64 1996
NINTENDO 64

SUPER MARIO LAND 2: 6 GOLDEN COINS 1992
GAME BOY

SUPER MARIO WORLD 1990
SUPER NINTENDO

SUPER MARIO LAND 1989
GAME BOY

SUPER MARIO BROS. 3
NES

SUPER MARIO BROS. 2 1988
NES

SUPER MARIO BROS.: THE LOST LEVELS 1986
NES

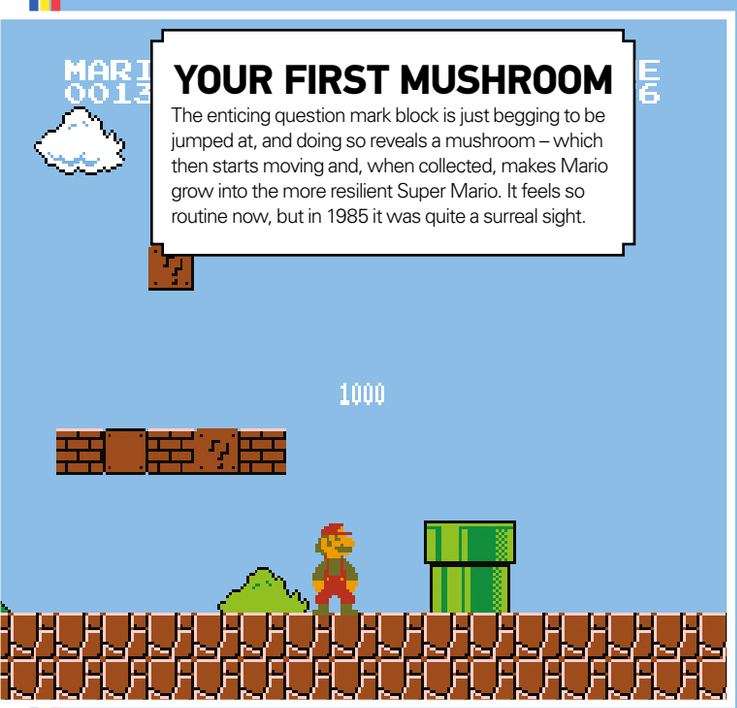
SUPER MARIO BROS. 1985
NES

WORLD 1-1 Super Mario Bros.

There's nothing like your first time. As your finger jabs the rubbery start button of the controller, the screen goes dark and you're presented with a title card for World 1-1. You hear those first notes of the game's theme – a tune that will be etched upon your memory forever – and proceed into the first stage of *Super Mario Bros.*.

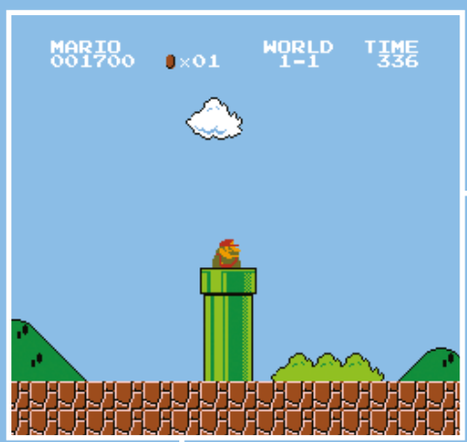
To this day, very few first stages do as good a job of equipping the player as that of *Super Mario Bros.*. The game doesn't need a wordy tutorial, because the level design does a great job of naturally creating curiosity and teaching the player about various game elements. All objects are placed on the right of the starting screen, encouraging you to move forward. Blocks bearing question marks draw attention to themselves, inviting the player to interact. The Goomba looks mean and advances towards Mario, making a confrontation of some kind inevitable.

World 1-1 contains enough challenge to make a player feel accomplished in victory, but is gentle enough that even a small child can finish it with a little practice. You'll play through it enough times to remember it by heart and learn to finish it in under a minute, but it never gets old because this first level *is Super Mario Bros.*.



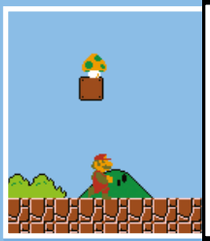
YOUR FIRST MUSHROOM

The enticing question mark block is just begging to be jumped at, and doing so reveals a mushroom – which then starts moving and, when collected, makes Mario grow into the more resilient Super Mario. It feels so routine now, but in 1985 it was quite a surreal sight.



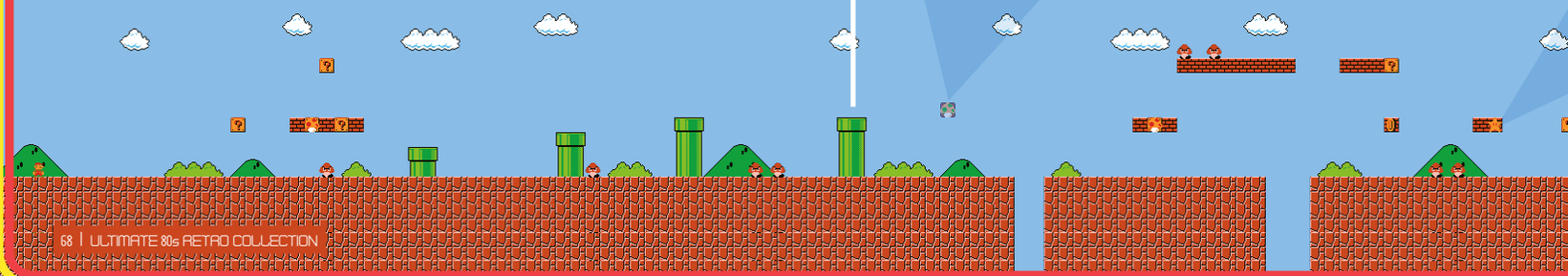
YOUR FIRST PIPE JOURNEY

"The best thing I've ever done is a *Mario* game has to be discovering the first Warp in *Super Mario Bros.* on the NES. Discovering a secret vine, which then allowed me to climb outside of the top of the level and run across the top of it was staggering. There were five other people in the room and we were all gobsmacked to discover the Warp Pipes. Back then, cheats and secrets felt far more valuable than they do today." **ALEX WARD, CRITERION**



YOUR FIRST SECRET

You might find the hidden extra life on your first attempt at World 1-1 – it's easy enough to accidentally find. However, what's important is that you probably won't. You can keep discovering new things in *Mario* games after you think you've mastered them, and this secret is the first indication of that.



"My favorite is the arcade version of [*Super*] *Mario Bros.* that I first saw. This game had numerous jaw-dropping moments for me that nowadays we take for granted, like a smoothly scrolling landscape. But what really blew me away was the moment I discovered I could enter certain green pipes and discover new areas. This simple feature made the entire *Mario* world seem vastly bigger and more mysterious to me. As children we're always fascinated by discovering caves and exploring what's inside them, and Mario captured that magic with the green pipes, each of which represented the possibility of an entirely new area to discover and explore. After that, secret areas became the norm in games, and I know in the Apogee and 3D Realms games I was involved in, we always tried to include as many secret area as we could. All because of *Mario Bros.*." **SCOTT MILLER, 3D REALMS**

"Speeding through World 1-1 on *SMB* NES and getting that first running jump to get the full 1000 points on the flagpole, giving the feeling that you're off to a great start. Yeah right!" **SAMHAIN81**

"It shouldn't come as any surprise that, as a game creator, my reaction to a game might be different from that of your average game player. The early *Mario* games on the NES bear this out.

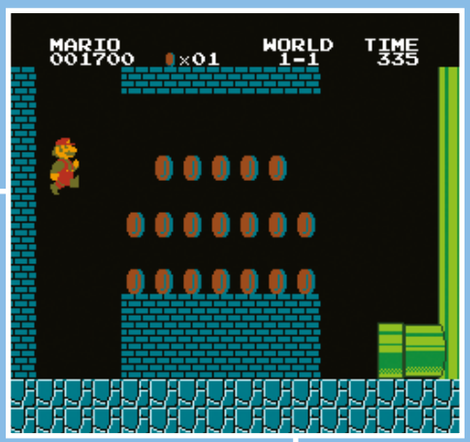
My first reaction to *Mario* was surprise that the game so obviously used character-mapped background graphics. Shigeru Miyamoto made a conscious decision to build Mario's world out of blocks. In doing so, he allowed for a very large world due to memory efficiencies, but it represented a step backward in videogame imagery. He took a big risk. As *Super Mario Bros.* was the flagship game franchise that everyone would associate with the NES system itself, the risk was that gamers would consider the NES to be inferior hardware to machines of the day providing much more realism.

As it played out, the game overcame the risks involved. Using character-mapping the world could be much larger and the gameplay experience more richly rewarding. Players thought of the colorful, blocky game backgrounds as more of a fantasy art-direction than a technical limitation, and the gameplay was the star anyway."

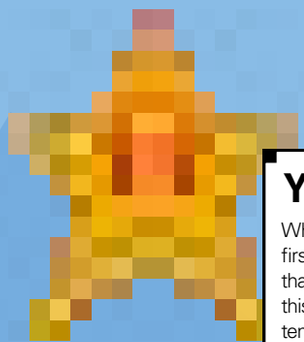
DAVID CRANE, ACTIVISION

YOUR FIRST FLAGPOLE

Even when your first moment of victory is in sight, there's one last challenge as you try to jump to the top of the flagpole for more points. If you're lucky, you might even get some fireworks after lowering the flag! It's a smart and iconic bit of game design.



As a plumber, it makes sense for Mario to hang around pipes. It doesn't make quite as much sense for him to travel through them, but after the first time you travel down one and find a secret cache of coins, you'll always check them for hidden rooms.

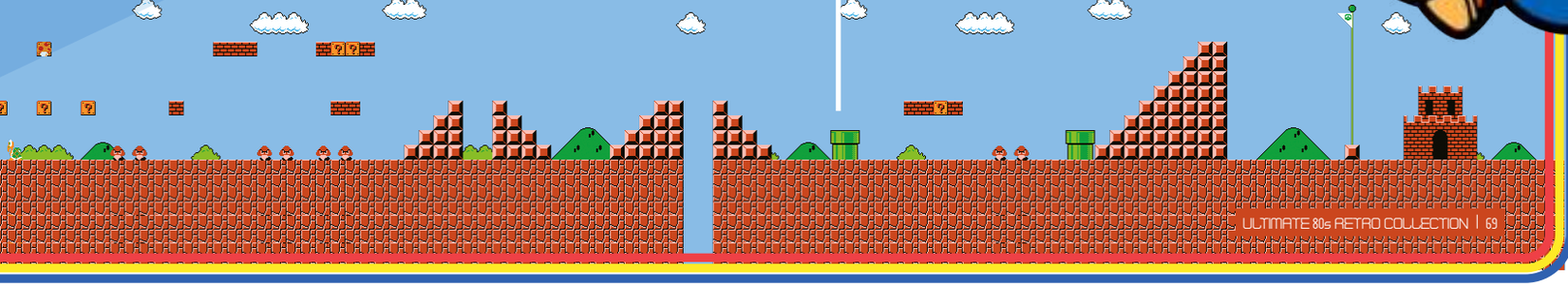


YOUR FIRST STAR

When a flashing star is revealed for the first time you automatically imagine that it's something pretty special – and this one doesn't disappoint. Mario's temporary invincibility turns him into a wrecking machine, capable of running straight through his foes without fear. It's an amazing feeling of power.

"My favourite *Mario* moment comes from what I believe was my first session playing the game while visiting Activision when I was working at *ZZAP!64* back in late-1985 or very early-1986. It had a new imported NES and an American TV to play it on. I'd been playing *Excitebike* for a while, but then switched to *Super Mario Bros.*, and quickly realised that it was one of the coolest games I'd ever played. I'd been running around for a while, when, by sheer fluke, I discovered that if you pulled down on the joypad while standing on a certain pipe, Mario was transported to a different area. Sure, that's a standard thing these days, but back then, the feeling of discovery, and the realisation that there was another world under the one I was standing on was incredible: it made a seriously cool game even cooler. What more secrets were there to uncover? My mind was blown. At a time when most games didn't have much in the way of hidden stuff, it really was a revelation. What a game!"

JULIAN RIGNALL, JOURNALIST



GOING OUT OF BOUNDS

AS SEEN IN: Super Mario Bros.

2 Placing the ceiling of *Super Mario Bros.*' underground stages below the HUD was a genius move on Nintendo's part, as it makes it look like there's a fixed status bar. As a result, jumping out of the normal play area and running along the top of the screen feels like you're breaking the game – and better yet, if you can make it past the exit pipe you'll reach the Warp Zone.

FOUR WAYS TO PLAY

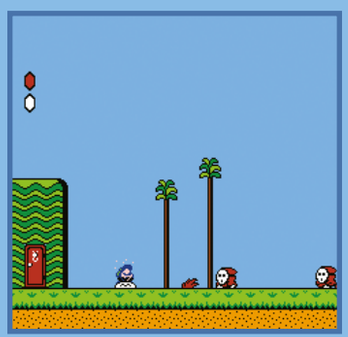
AS SEEN IN: Super Mario Bros. 2

3 Not only does *Super Mario Bros. 2* let you play as Mario's friends, it makes doing so very worthwhile as every single one has unique characteristics. Luigi's a bit slower and weaker than Mario, but jumps higher. Toad has a short jump, but is fast and pulls up veggies quickly, while Peach (or Princess Toadstool) has a unique floating jump. It was a joy to discover which one suited you best.

"In 1988, while working at Origin Systems, we had a Japanese Famicom system and I remember playing *Super Mario Bros. 2* on it – it was really cool to see Mario again but with blowing wind and leaves! It turns out this version never made it to the US because six months later *Super Mario Bros. 2* got to the States and it was the re-skinned *Doki Doki Panic* game (still awesome).

I also remember just how incredibly difficult World 8 was in *Super Mario Bros. 3*. The game was incredible, really a tour-de-force of game design, and was perfect in almost all respects. I finally beat it and count it as one of the hardest games I've played."

JOHN ROMERO, ID SOFTWARE



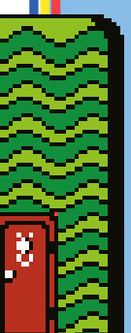
WORKING THE SOIL

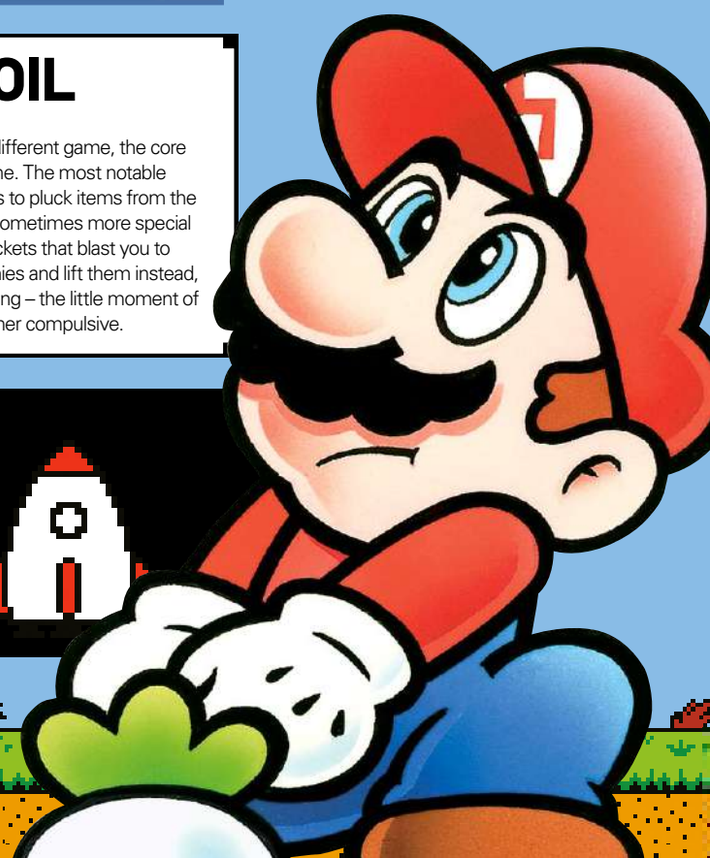
AS SEEN IN: Super Mario Bros. 2

4 Owing to *Super Mario Bros. 2*'s origins as a different game, the core gameplay changes a bit from the original game. The most notable new feature is the ability for Mario and friends to pluck items from the dirt – usually vegetables to be thrown at enemies, but sometimes more special items like potions that create doors into subspace or rockets that blast you to the next part of the game. Sure, you can jump on enemies and lift them instead, but even lobbing Shy Guys isn't as fun as a little gardening – the little moment of anticipation as each root is pulled makes the activity rather compulsive.

PLUCK TALES

Here are all the items you can retrieve from the ground in Super Mario Bros. 2





"Oh man I'm not even sure how to pick one! I guess the first time I saw a Door Potion in *SMB2*. What a supremely weird game item!"
ADAM SALTSMAN, ADAM ATOMIC

"My memory has to be playing *Super Mario Land* on the Game Boy in 1989. This was my first *Mario* game, having worked at a games shop that decided to sell the Sega Master System – you weren't allowed to sell Sega AND Nintendo – I had never seen a NES. I had my own Game Boy and this was the game I bought with it. After my first go I became aware of how well laid out and devious the levels were. Once I'd got used to [it] I realised that four hours had passed. I was well and truly addicted and the various tunes had been ingrained into my brain for all time. The game also succeeded at getting family members, who had shown no interest in my previous machine, the Spectrum, bopping baddies and exploring tunnels. A recent replay showed to me that the game had lost none of its playability and still had that 'one more go' factor that it had 26 years ago."
MARK R. JONES, OCEAN SOFTWARE

SUBMARINE ATTACK

AS SEEN IN: Super Mario Land

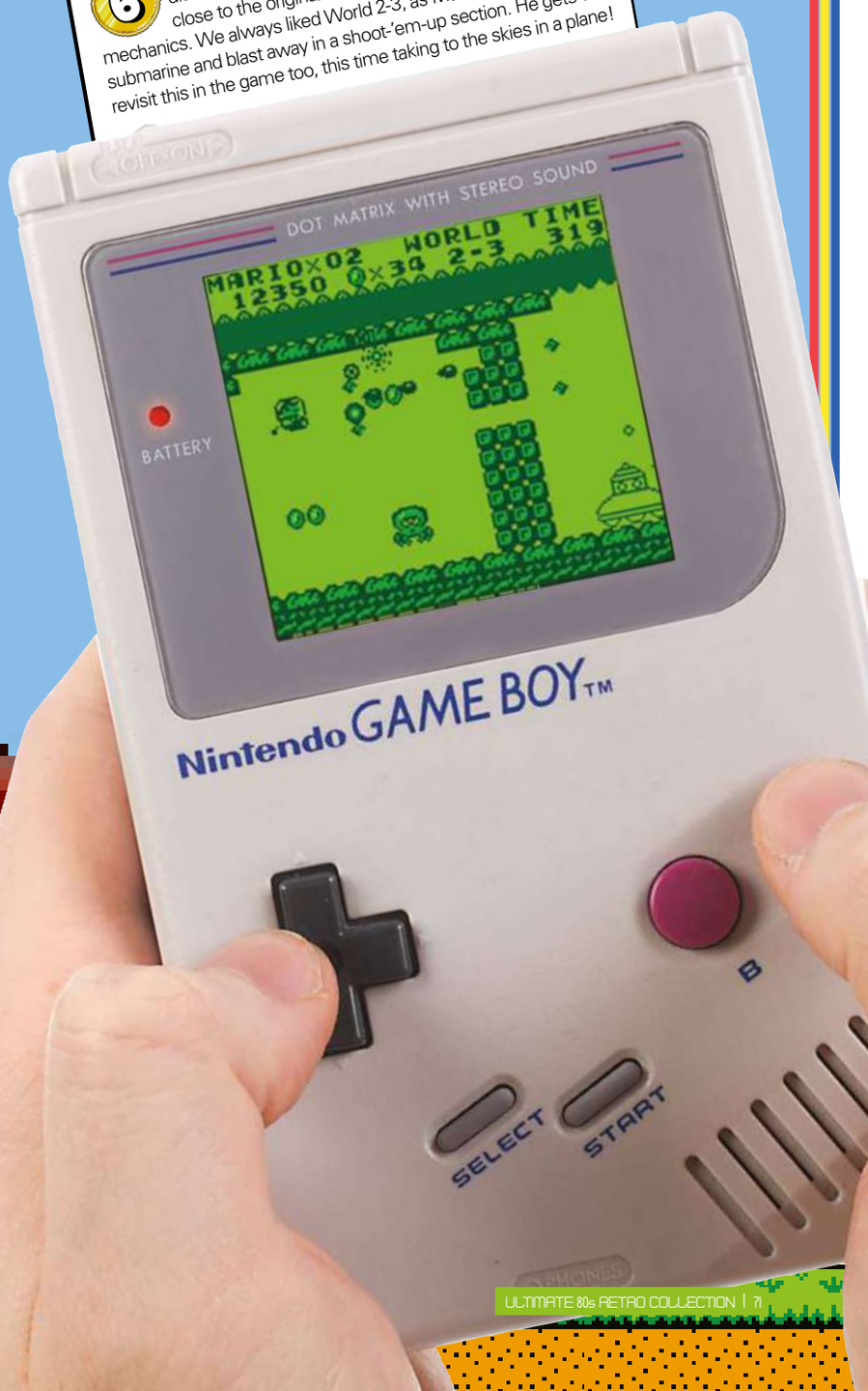
6 Gunpei Yokoi's handheld *Mario* games offer a distinctive take on the design of the series, staying close to the original formula while introducing new mechanics. We always liked World 2-3, as Mario gets to hop in a submarine and blast away in a shoot-'em-up section. He gets to revisit this in the game too, this time taking to the skies in a plane!

MALIGNANT MUSHROOMS

AS SEEN IN: Super Mario Bros.: The Lost Levels

5 Some of the cleverest moments in *Super Mario Bros.* involve subverting the player's expectations, and this sequel did just that. In the original game, every mushroom was good – in *The Lost Levels*, you need to watch out for the Poison Mushrooms which damage you like an enemy attack.

"My favourite *Mario* moment is finding the Warp Zone at the end of 1-2. You thought you'd hacked the game! My least favourite moment, getting to 4-1 and finding Lakitu waiting with an inexhaustible supply of Spiny eggs to throw at you. I doubt it's a coincidence the two are linked."
STEVE LYCETT, SUMO DIGITAL



TAKING TO THE AIR

AS SEEN IN: Super Mario Bros. 3

Super Mario Bros. might have given Mario power-ups, but *Super Mario Bros. 3* was the game that made us fall in love with them and the reason was found in the very first stage. After picking up a Super Leaf, Mario gains ears and a tail to become Raccoon Mario – not only making him cuter, but also granting him the ability to fly! It works just as you'd expect, too. Mario must be running at top speed before you hit jump to initiate flight, meaning that you need a long stretch of 'runway' to get going. However, Raccoon Mario (and later Tanooki Mario) can reach areas that are otherwise totally inaccessible, so you'll try to launch whenever possible. The ability to fly added a lot to *Super Mario Bros. 3*, and it's no surprise that flight has been frequently revisited as a theme since.

FLIGHT ITINERARY

After taking to the skies for the first time, Mario decided that the airborne life suited him…

SUPER LEAF
From: Super Mario Bros. 3

CAPE
From: Super Mario World

WING CAP
From: Super Mario 64

F.L.U.D.D.
From: Super Mario Sunshine

BEE MUSHROOM
From: Super Mario Galaxy

> **"*Super Mario Bros. 3*, the Tanooki suit. I played it for ages thinking it was a great attacking move before being shown by a neighbour how to fly. The rest of my *Mario 3* career was attempting to recreate this."**
> BITTERTOAD

COSTUME PARTY

Mario just loves to dress up – here are some of our favourite outfits he's donned over the years…

FIRE SUIT

FROG SUIT

HAMMER SUIT

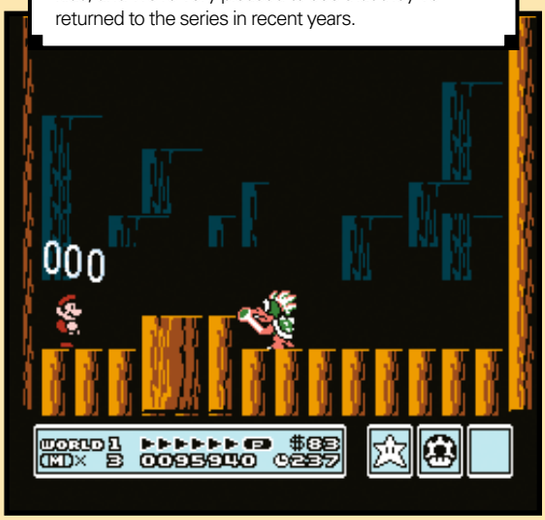
CAPE SUIT

METAL SUIT

MEETING THE FAMILY

AS SEEN IN: Super Mario Bros. 3

8 After repeatedly being bested by Mario in the first game, Bowser learned the joys of delegation and decided to reserve himself as a final boss. He's a responsible villain, though – to ensure that Mario still had bosses to fight, he brought in the seven Koopalings to do his dirty work for him. We've got a fair amount of affection for the Koopa kids, and we're very pleased to see that they've returned to the series in recent years.

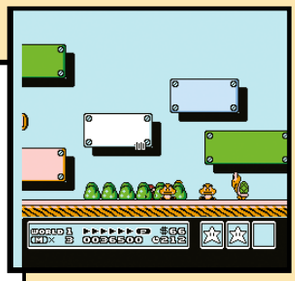


> "When you first fly with the racoon tail in *Super Mario Bros. 3* and realise how much of the game has opened up to you."
> FLYING_DELOREAN81

WHISTLE BLOWER

AS SEEN IN: Super Mario Bros. 3

9 Finding the warp zones in *Super Mario Bros.* is rewarding but obtaining warp whistles in *Super Mario Bros. 3* is even more so, especially because so few are available – just three in the whole game, and all of them within the first two worlds. Our favourite is the first. Find this white block in World 1-3, hold down on the D-pad for a couple of seconds, then run behind the scenery to the end of the stage!



> "While almost impossible to pick one *Mario* moment above all others, one that does hold a very special place is my first encounter with the Racoon (Tanooki) Suit in *Super Mario Bros. 3*. As a pixel pusher, the sheer joy of seeing such an iconic character as our titular plumber suddenly in a fuzzy onesie literally made me grin from ear to ear.
>
> A great moment in a series of games that seldom fails to bring back the childlike gamer in even the oldest of dinosaurs."
> SIMON BUTLER, IMAGINE SOFTWARE

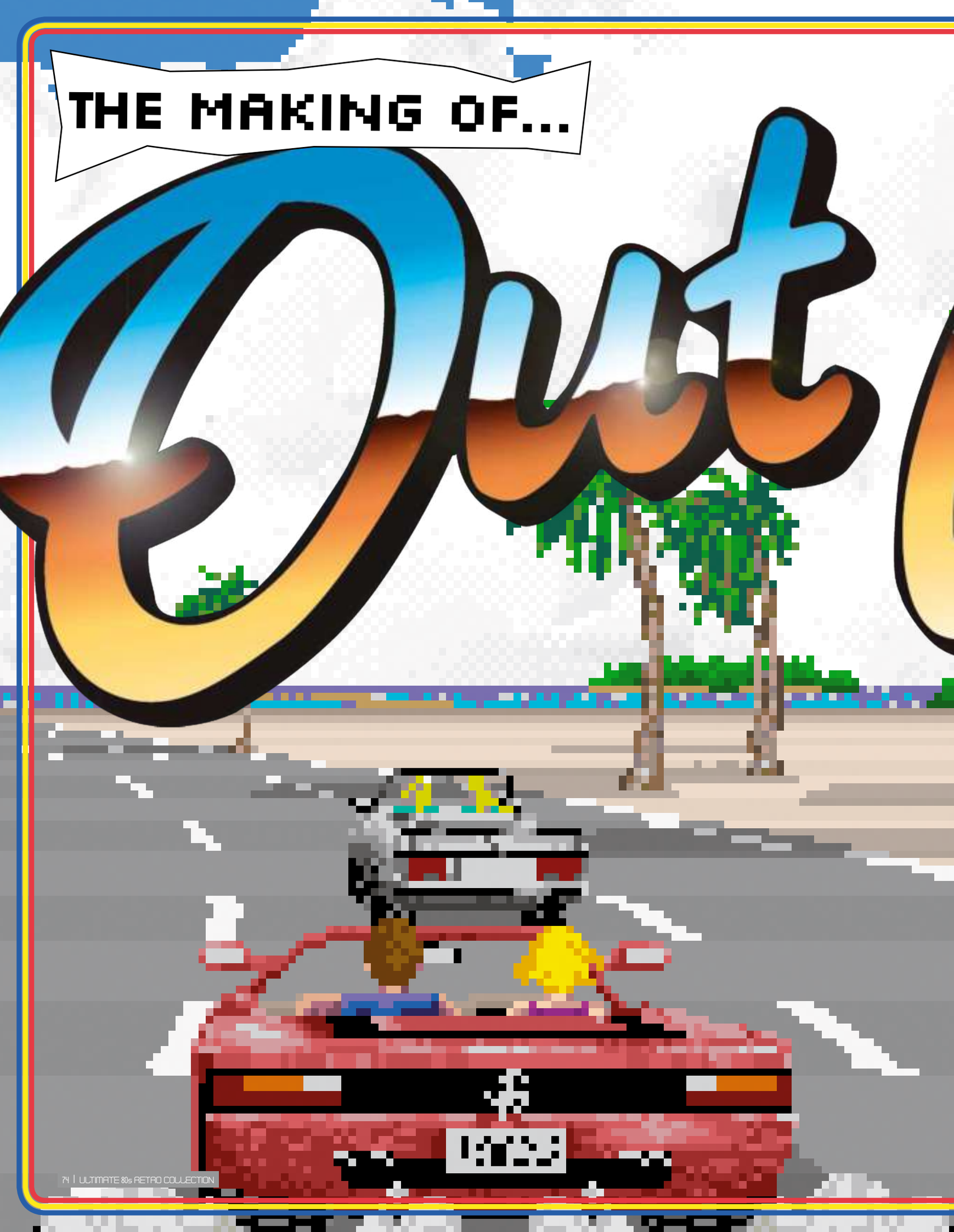
TOAD HOUSE

AS SEEN IN: Super Mario Bros. 3

10 With its new world map system, *Super Mario Bros. 3* opened the series up to between-level events. While we like the enemy encounter mini-stages, we were always much happier to see Toad's friendly face. Whether you were matching cards or simply picking items from a chest, the ability to get a quick break and stock up on items was always most welcome.

THE MAKING OF...

Out



OutRun

JONTI DAVIES MEETS YU SUZUKI – LEGENDARY GAME PROGRAMMER, FERRARI OWNER AND PART-TIME PHILOSOPHER – TO DISCUSS SEGA'S MOST ICONIC DRIVING GAME, THE 1986 CLASSIC THAT IS OUTRUN

Yu Suzuki joined Sega in 1983, his first assignment was *Champion Boxing* on the SG-1000. From there, Suzuki's progress began to gain momentum. By the end of 1985 he had already established himself at the vanguard of coin-op development, having masterminded a couple of major successes for Sega in the form of *Hang-On* and *Space Harrier*. But Suzuki's journey towards becoming a legendary videogame producer was about to shift to a higher gear, and it was the following year's *OutRun* driving game that turned Suzuki into an internationally renowned programming superstar.

Before a brief diversion to code the thrilling sci-fi blast of *Space Harrier* in time for a December 1985 release, Suzuki's attention was first centred on the racing genre. The result of Suzuki's initial drive was *Hang-On* (which appeared in Japan's arcades in July 1985), a high-speed bike racing game where players literally felt as though they had to hang on to the coin-op cabinet's handlebars. Part of Suzuki's motivation for *Hang-On*'s production was a desire to see to it that Sega overturn Namco as Japan's leading manufacturer of racing games, and while *Hang-On* was a superb title – and one which radically altered Sega's image – he accepted that his first racing game alone hadn't been sufficient for Sega to overtake its main rival, the developer of *Pole Position*. Namco was still synonymous with driving games; Sega was being lapped. Suzuki wasn't fond of repetition, so instead of producing another bike racing game he opted to create the car driving game that would become *OutRun*.

Well, that's one side of the story. The other, less weighty but equally important reason for Yu Suzuki's determination to create *OutRun* came from a Burt Reynolds flick, as he confesses to us: "The main impetus behind *OutRun*'s creation was my love of a film called *The Cannonball Run*. I thought it would be good to make a game like that. The film crosses America, so I made a plan to follow the same course and collect data as I went. But I realised, once I'd arranged everything, that the scenery along the [pan-America] course actually doesn't change very much, so I revised my plan and decided to collect data in Europe instead…" Although *Cannonball Run* clearly had a great influence on Suzuki's work with *OutRun*, the game also bears what must have been a coincidental similarity to the euphoric scene in *Ferris Bueller's Day Off* (also a 1986-vintage production) in which Ferris, the sassy Sloane at his side, speeds off in a rosso corsa Ferrari 250GT. Regardless, Suzuki's attention had been diverted away from America, towards Europe.

Suzuki's maverick approach to game development would, during the Nineties, become accepted practice (12 years later, for example, fellow Sega-man Yuji Naka would take his *Sonic Adventure* team to South America purely for research purposes), but in the mid-Eighties Suzuki was already doing things the interesting way, literally journeying around the world just to make sure that his game would be the real deal. Suzuki's plans culminated in a European research adventure. "Because of the 'transcontinental' concept," he recalls, "I felt that I should first actually follow such a course myself, collecting information with a video camera, a still camera, and other equipment. I started out from Frankfurt, where I hired a rent-a-car, and I installed a video camera on the car. I drove around Monaco and Monte Carlo, along the mountain roads of Switzerland, stopping in hotels in Milan, Venice and Rome, collecting data for a fortnight. I have many happy memories of that trip. There were many places I visited where communicating in English wasn't sufficient: one time, when ordering a meal, I thought I had asked [in a European language] for a single bowl of soup but was surprised when four bowls of soup were brought to me!"

Soup or no soup, there was still much work to be done during Suzuki's fortnight in Europe. "The next step was to talk with local people in the places I visited, and [later] to make those discussions and other episodes reflected in the game," Suzuki remembers. The result was a unique videogame snapshot of the

IN THE KNOW

» **PUBLISHER:** SEGA

» **DEVELOPER:** AM2

» **RELEASED:** 1986

» **GENRE:** DRIVING

» **EXPECT TO PAY:** £1-£50 (DEPENDING ON WHICH VERSION YOU GO FOR)

VERSION EXCURSIONS

Sega Mark III/Master System
This was the first console conversion of *OutRun*, appearing in Japan on 30 June 1987 – less than 12 months after the coin-op debuted in Japan. It wasn't a bad effort, either: in terms of presentation it's superior to most 8-bit computer versions, and the game also supported the Mark III's Yamaha YM2413 FM sound unit, which helped ensure the soundtrack didn't sound too far removed from the original tunes heard in the coin-op.

Mega Drive
In August 1990 *OutRun* was released on a Mega Drive cartridge, having been successfully ported to the console by conversion specialist Sanritsu Denki (now an independent developer known as SIMS, this company was at the time wholly owned by Sega). The Mega Drive version of *OutRun* was notable for featuring a new, exclusive song called *Step On Beat*.

PC-Engine
This Japan-only PC-Engine conversion by NEC showed up at the end of 1990. It's an excellent piece of work, easily outstripping the Master System version while giving the Mega Drive release a good run as well – in spite of the supposed superiority of the Mega Drive hardware.

Sega Saturn
The brilliant Saturn version of *OutRun* was released in Japan under the Sega Ages banner in September 1996. Not only does this disc contain both the Japanese domestic and international variations on the arcade code, but it also features a 60fps refresh rate that outperforms the coin-op's 30fps standard. The Saturn build even includes newly arranged versions of the classic four-song soundtrack, which were personally reworked by Hiroshi Kawaguchi in early 1996. This *OutRun* release was handled by Game no Rutsubo, another specialist Japanese conversion outfit.

Dreamcast
While certainly highly respectable versions of the game, *OutRun* in both *Shenmue II* (where it appeared as a mini-game) and *Yu Suzuki Gameworks* (as part of a five-game retrospective compendium) differs from the original arcade in a couple of areas: specifically, the player's car is a generic Ferrari-style motor but not the original Testarossa design, while the timbre of the music is also slightly changed. In spite of these discrepancies, both Dreamcast appearances were in fact produced by Game no Rutsubo, who had done such a spellbinding job with the Saturn version.

Game Gear
This was the first handheld version of *OutRun*, released in 1991. As expected, the Game Gear version struggles to re-create the look of the coin-op, but it does succeed in achieving a first for *OutRun* outside of the arcade: plug in a Link Cable and two-player racing becomes an option.

Game Boy Advance
This surprisingly fine version of *OutRun* appeared along with dinky takes on *After Burner*, *Space Harrier* and *Super Hang-On* as part of the Atari-published *Sega Arcade Gallery*, which was released in the UK in January 2003. Ironically, in spite of its quality, the Bits Studios-converted GBA *OutRun* never appeared at retail in Japan.

Mobile
OutRun on a mobile phone? Yep, and there are some keitai versions available in Japan that look superior to some of the 8 and even 16-bit console renditions of the game. Shame about the controls, though…

Commodore 64
The loading times on this 1987-vintage C64 version were unbearable, and the gameplay wore livery that was only vaguely similar to the real *OutRun*. There was no choice of routes, and only *Magical Sound Shower* and *Splash Wave* were represented (albeit in an approximated way) on C64 *OutRun*'s soundtrack. On the plus side, there were a few POKEs you could input to either stop the clock from ticking down or to enable you to pass through other vehicles. Thank goodness for the Saturn.

Sinclair ZX Spectrum
The Probe-developed 1988 Speccy version of *OutRun* was, like the Commodore 64 release, published by US Gold. Also like that Commodore 64 title, it was barely a fraction of the game that players knew from the arcades.

Amstrad CPC
OutRun on the CPC, also released in 1988 and programmed by Probe, wasn't much better than the Spectrum version: it had no in-game music, and again it looked like a distant, ugly relative of the coin-op. On the plus side, CPC *OutRun* had the proper route-switching setup (which the Commodore 64 release infamously was without) and it was bundled with a tape of the music from the arcade version, so you could stick that on the stereo while playing and sort of trick yourself into believing you had a virtual arcade in your bedroom.

MSX/MSX2
OutRun on the MSX and MSX2 was released in 1988. It was a simple reduction of the coin-op, looking even more stripped-down (although a lot more colourful) than the C64 version. Although MSX *OutRun* was released immediately after the FMPAC sound source cartridge came out, this Pony Canyon-published release failed to take advantage of the new hardware add-on, resulting in a blippy-sounding mediocrity.

Commodore Amiga
For those who were lucky enough to own an A500 as early as 1989, Probe had an Amiga conversion of *OutRun* that resembled the coin-op much more closely (at least to the point where it was obvious what the source material was) than the CPC and ZX versions it had also coded.

Atari ST
Likewise, the ST version of *OutRun*, which was released in 1988, shortly before the Amiga build appeared, was a continent away from the 8-bit computer ports it outran.

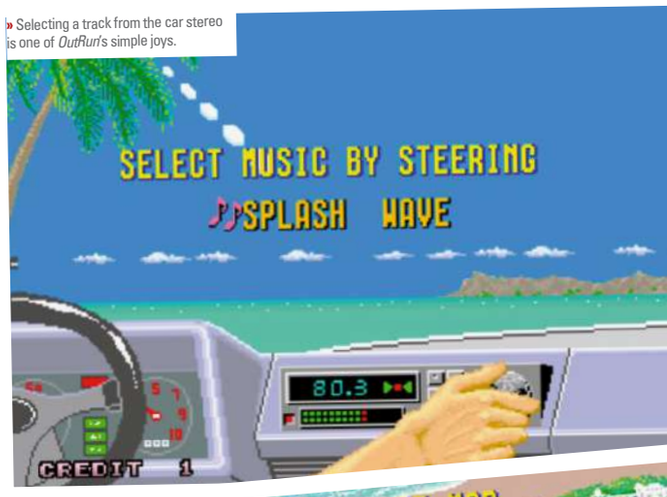
DOS
DOS users weren't left out of the *OutRun* conversion circus, either: Sega published a version programmed by Distinctive Software employees (under the Unlimited Software alias) in 1989. It was a worthy effort, although the Amiga and Atari ST versions had greater shine.

mid-Eighties, a Japanese interpretation of European geography. *OutRun* is in many ways the game that is most representative of bubble-time Japan's extravagances: it's a production with concessions to luxury (driving a Ferrari Testarossa, sitting inside a state-of-the-art coin-op cab), taken at endless high speeds across effusively bright European-styled country, all to an inspirational soundtrack where the only hint of melancholy arrives beyond the final checkpoint, as *Last Wave* fades out.

Even while the bubble lasted, however, there were some limits. Sega's resources were not endless and the technology available to Suzuki at the time – while fearsomely powerful compared with other hardware of a mid-Eighties vintage – didn't stack sufficient memory to facilitate all of Suzuki's dreams. As a consequence of these and other factors, most notably a lack of time, Yu Suzuki found it necessary to make a few compromises during *OutRun*'s development. It turns out that these cuts were not to any great gameplay detriment, yet Suzuki was instinctively unhappy with being forced to sacrifice any of his ideas: "I was only able to put around half of the things I wanted to do into *OutRun*," he says. "Because of budget and development time limitations, some of the contents I'd planned had to be squeezed or cut. I'd made preparations for eight individual characters and I wanted to include various events at each checkpoint, which would have made the player experience a story; something like the *Cannonball Run* film. I also wanted to give players a choice of supercars to drive, so that they could enjoy differences in car performance."

Of course Suzuki's hoped-for garage of driveable Ferraris was eventually realised to near-perfection in 2003's *OutRun 2*, but for the original game he had to be satisfied with just one Ferrari. "Naturally I was yearning for Ferraris," Suzuki says. "Above all, the most talked-about car of the time was the 12-cylinder Ferrari Testarossa. The first time I saw the car was in Monaco, and I was really moved by its beauty – I thought, 'there is no choice: this is the only one'. There are many other charming Ferraris, but memory problems made it impossible to include them in the game… So we decided that the player's car should be the 12-cylinder Testarossa."

» Selecting a track from the car stereo is one of *OutRun*'s simple joys.



T210 LAP

THE CAR IN FRONT IS A TESTAROSSA

"Five of us squeezed into a car and drove for three hours to see a [privately owned] Testarossa" YU SUZUKI ON HIS TEAM'S DEDICATION TO FERRARI'S HOTTEST CAR OF THE EIGHTIES

On returning to Japan, Yu Suzuki and his team set out to conduct further research. Suzuki had already explored the potential for *OutRun*'s scenery and environment throughout his European rent-a-car expedition; his team's next objective was to learn more about the Testarossa, but this was fraught with problems, as Suzuki relates: "Only a tiny number of Testarossas had been brought into Japan, so we had some trouble finding an owner to help us with collecting car data. Eventually, five of us squeezed into a small car and drove for three hours to see a [privately owned] Testarossa. We took photos of it from every side, at five-degree intervals, and we also recorded the sound of the engine."

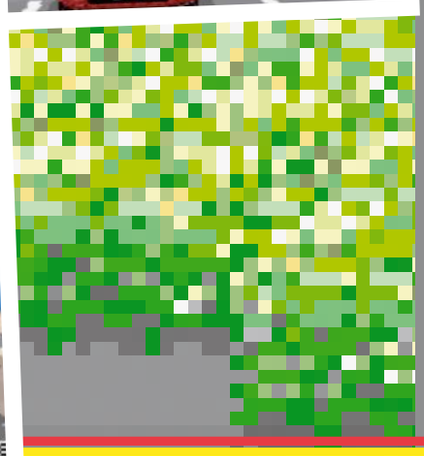
Suzuki's work on *OutRun* was a model of thoughtful, conscientious design. Suzuki has previously spoken of keeping a notepad and Dictaphone next to his bed, so that he could quickly note any ideas he had in dreams. It's no coincidence that *OutRun*'s opening stretch of road is traffic free: this was to ensure that players stood no risk of being discouraged by suffering a collision early in the game, so soon after inserting a 100 yen coin to play. Instant explosions on collisions between vehicles, too, in spite of being prevalent in racing games prior to the *OutRun* era, were not to Suzuki's liking, and he deliberately omitted this faddish conceit when designing both *Hang-On* and *OutRun*. On the other hand, Suzuki reckoned that zooming out into the lead and then just staying there for the rest of the race wasn't much fun either, which is partly why *OutRun* is a race against the clock, rather than an inter-vehicle competition.

Yu Suzuki's personal gameplay preferences happened to be in tune with those of the majority of players, leading to design decisions that would help *OutRun* to push driving games away from their tendency towards 'the impossible', as Suzuki explains: "At the time of *OutRun*'s development, driving games were made whereby a collision with another car would automatically result in an explosion, and they had many things that would be impossible with real cars. Even if you were good at driving actual cars, the skills needed in those games were completely different. I wanted to make a driving game where people who were skilful drivers of cars could also achieve good results in the game. For that reason, where at all possible, we simulated features such as horsepower, torque, gear ratios and tyre engineering close to those of real cars. For features that were difficult to control, we added AI assistance. For its time, I think the level of *OutRun*'s production was very high."

The AI assistance Suzuki speaks of was used to particularly good effect with the handling of the Testarossa. The 'drift' techniques Japanese racing game developers tend to talk about are, according to Suzuki, essential in good driving games – if the car's tyres grip the road surface too closely, the handling of the car will be too twitchy – but prior to *OutRun* this wasn't commonly appreciated by driving game developers. The response of *OutRun*'s Ferrari was pitched perfectly, however, neatly averting all of the frustrations that players feel when they're attempting to control cars which are prone to understeer, oversteer or 'twitchiness'. And it's just as well, really: not only did *OutRun* present endless one-way traffic through which you had to weave a path, but it also presented a choice of routes at the end of each stage, demanding that you swerve left or right to head towards the next easier/trickier area. In a game as gorgeous as *OutRun*, while the primary thrill was in the ride, part of the fun was just seeing what the next stage looked like.

» The opening stretch of track was kept free of traffic so as not to deter players too early on.

» Failure to get a move on results in a very angry flagman.



Turbo OutRun
Turbo OutRun was the first of many pseudo-sequels to Yu Suzuki's original formula, and this one gets even closer to the *Cannonball Run* inspiration by virtue of its setting as a pan-America race. It also introduced a turbo feature for limited quick boosts.

Battle OutRun
An exclusive game for the Sega Master System, *Battle OutRun* stripped away all of the notions of luxurious driving from the original *OutRun* game and replaced them with cheap criminal-chase 'thrills'. Hmm.

OutRun Europa
This entry in what was becoming a series of sort-of *OutRun* games appeared on the Game Gear, SMS and C64 in 1991. It tried to be the Sega-authorised contender to Taito's excellent *Chase HQ*, but failed due to shoddy design and cheap production values.

OutRun 3-D
Another SMS release, *OutRun 3-D* was designed to take advantage of the SegaScope 3D Glasses. It seemed futuristic, although the developer's lack of confidence in the concept was belied by its reassurance-veiled-as-a-boast, "WITH 2-D MODE!"

OutRun 2019
F-Zero meets *OutRun* in this Mega Drive release from 1993. The diverging routes of *OutRun* at least are retained here, however, the Ferrari has been replaced with an awkwardly styled rocket car… from the future.

OutRunners
This is one of the better *OutRun* sequels, the coin-op version featuring linked cabinets for multiplayer racing and the System Multi 32 board powering late sprite-based graphics drawn in a style similar to Yu Suzuki's 1988 classic, *Power Drift*.

OutRun 2 / OutRun 2 SP
This great game had a full Ferrari licence with eight drivable supercars, as well as new game modes and awesome Chihiro-powered 3D graphics. It was the first real sequel to *OutRun*, and it had only taken 17 years to arrive.

Sega Ages 2500 Vol. 13: OutRun
This is in part a sequel to *OutRun* and in part a conversion of the original game, in dull polygonal 3D graphics. A new Arrange mode means you needed to overtake rivals within each stage, and then stay ahead of them until the end of your drive.

OutRun 2006: Coast 2 Coast
This is the homecoming of *OutRun 2* and *SP*, collecting fine Xbox, PS2, PSP and PC conversions of the arcades together with additional console/computer-exclusive material. Essential.

THE MAKING OF... OUTRUN

» Cutting it this close can be incredibly frustrating.

Suzuki concurs, explaining that the emphasis on the scenery was deliberate: "I wanted to make a game where you could enjoy magnificent changing scenery and landscapes while driving, and really get a nice sensation from playing it – not a stoic racing style of play."

From the use of a roofless Testarossa and the choice of Coconut Beach as the game's first stage, to the names of the soundtrack selections (breeze, wave, shower) and the various pastel shades used to draw the sky, *OutRun* feels almost tangibly fresh; the perfect game for summer. We mention this to Suzuki, quietly hoping we haven't just perceived the experience horribly wrong all these years. "Yes, that's correct," he nods, to our relief. "I wanted to make stages where you could smell the fresh fragrance of new leaves and flowers, like in the green meadows of Switzerland, so I'm happy that you were able to sense that."

For such a cohesive, finely crafted game, it's surprising to hear that the team behind *OutRun* was very much a randomly assembled group of individuals from within Sega. "The team consisted of four programmers, five graphics designers and one sound creator," Suzuki says, "and we had the [coin-op] cabinet made by commissioning another team. The game development team was made up of people who happened to be available at the time, so I wasn't able to assemble the team according to my wishes. I wrote all of the important planning and programming parts myself; I don't think anything was really influenced by the development staff. I recall the bulk of development work taking between eight and ten months to complete. However, during those eight to ten months I was almost living at Sega," he laughs.

Although the other programmers and graphics designers working on *OutRun* appear, according to Suzuki, to have had scant influence on shaping the game, one man – Hiroshi Kawaguchi (the artist formerly known as Hiroshi Miyauchi) – had a tremendous effect on what has become one of the most highly regarded aspects of *OutRun*'s production: its music. Kawaguchi joined Sega as a programmer in 1984, coding alongside Yuji Naka on the SG-1000 game *Girl's Garden* while writing music purely as a hobby outside of work. Suzuki heard some of Kawaguchi's tunes and was so impressed that he commissioned him to produce the soundtrack for *Hang-On*, after which Kawaguchi quit his role as a programmer and became a full-time in-house composer at Sega.

Yu Suzuki, himself a guitarist, had specific requests of Kawaguchi for his *OutRun* assignment: "During the planning stage I explained in detail to the sound engineer what type of tunes were needed. I told him that basically I wanted eight-beat rock rhythms at a tempo of 150bpm. I remember selecting a number of tunes to be used as points of reference. In those days we couldn't use samplers or PCM sound sources, so the timbre of the tunes was a synthesizer creation, which led to us having some difficulty when attempting to trim data quantities for playback of the tunes. I remember wanting some guitars and voices in the soundtrack, but it was impossible to achieve with the technology of the time, so I ultimately had to give up."

The final soundtrack represents one of the finest, enduring examples of Japanese videogame music. *OutRun* offers players a choice of three tunes – *Passing Breeze*, *Magical Sound Shower* and *Splash Wave* – via a mock car-stereo screen before the action begins. It's a concise collection of aurally luxurious numbers, each upbeat and catchy to the point where players would anticipate every subsequent bar. Somehow these tunes fit *OutRun*'s graphics perfectly, and they even seem to be in tune with the feel of the Testarossa's acceleration and handling. This is explained in part by Yu Suzuki's balanced commitment to *OutRun*'s sonic, visual and responsive aspects – "I couldn't think of the game and music as detached, separate things," he tells us – but there's also the fact that Hiroshi Kawaguchi, after working with Suzuki to deliver the excellent *Hang-On* music, was beginning to understand Suzuki's wishes and his way of thinking. We ask Yu Suzuki to reveal his favourite *OutRun* cut and he responds without any hesitation: "*Magical Sound Shower.*"

Aware of all five senses (he has even contemplated the potential for games that challenge players' sense of smell), Yu Suzuki wanted to make *OutRun* a tactile experience – not just something to appeal to the eyes and ears. Hence the cabinet designs he commissioned, which were early examples of coin-op setups capable of delivering force feedback to players at appropriate moments, such as whenever the Testarossa crashed into a roadside signpost. There were four flavours of *OutRun* cab – Deluxe and Standard moving types, an upright with a force feedback wheel only, and a cockpit version without any such movement. The appeal of the jolting DX and SD versions was overwhelming, and after their initial trial runs non-feedback cabinets became relatively rare in Japan. Regardless of the presence/absence of moving parts in these prestigious cabinets, all of them used Nanao-brand monitors. It was essential that *OutRun*'s super-quick sprite-scaling and undulating roads were displayed on the best possible screens, and it was fortuitous that these cabinets were the last wave of Sega machines to use Nanao monitors. As part of a cost-cutting exercise, subsequent Sega coin-ops would use lower-spec Samsung displays – while the Nanao screens would stay bright forever, the later Samsung monitors were prone to screen-burn and visual signs of ageing.

The *OutRun* arcade machines had an unexpected effect on the crowds of players who used to hang out at Japan's game centres; no previous driving game had inspired such dedication. And players went to extraordinary lengths in the pursuit of high scores. Around 1988 it was common in Japan to find *OutRun* machines with broken gearsticks: the so-called 'gear ga-cha' trick – where opportune gear-down/gear-up shifts would be rewarded with a prolonged white-exhaust speed boost – was published in Japan's then-widely read *Gamest* magazine, along with a photo-led guide to explain the intricacies of the move. Arguably the most aggressive of OutRunners were not playing in the intended spirit of the game, but such determined play helped to establish *OutRun* as a phenomenon in the arcades, as well as a commercial success that covered Yu Suzuki's travel expenses many times over.

Yu Suzuki has always been blessed with a clear vision of what he wants, even if – as in the case of the unfinished *Shenmue* saga – he hasn't always managed to get it. But with *OutRun*, Suzuki's vision was realised as perfectly as could have been hoped for, leaving players and its designer and programmer with a supreme, satisfying experience born out of red metal, pastel skies and accelerating away towards the horizon. We'll leave Yu Suzuki with the final word; he deserves it: "*OutRun*'s concept was not about frantically racing to just barely take first place. It's about giving a ride to a beautiful woman, who sits at your side, and driving around in a luxurious car with just one hand on the steering wheel, taking first place in the race by a wide margin – and with time to spare."

Yu Suzuki Timeline

HANG-ON
(released 1985; Arcade version pictured)

SPACE HARRIER
(1985; GBA version pictured)

AFTER BURNER II
(1987; Arcade version pictured)

POWER DRIFT
(1988; Arcade version pictured)

VIRTUA RACING
(1992; Arcade version pictured)

VIRTUA COP
(1994; PS2 version pictured)

VIRTUA FIGHTER 2
(1994; Arcade version pictured)

"The main impetus behind OutRun's creation was my love of a film called The Cannonball Run. I thought it would be good to make a game like that"

YU SUZUKI ON HIS FASCINATION WITH THE BURT REYNOLDS FLICK

» The open road, a blonde gal at your side, *Magical Sound Shower* playing. Thanks, Yu.

DEVELOPER HIGHLIGHTS

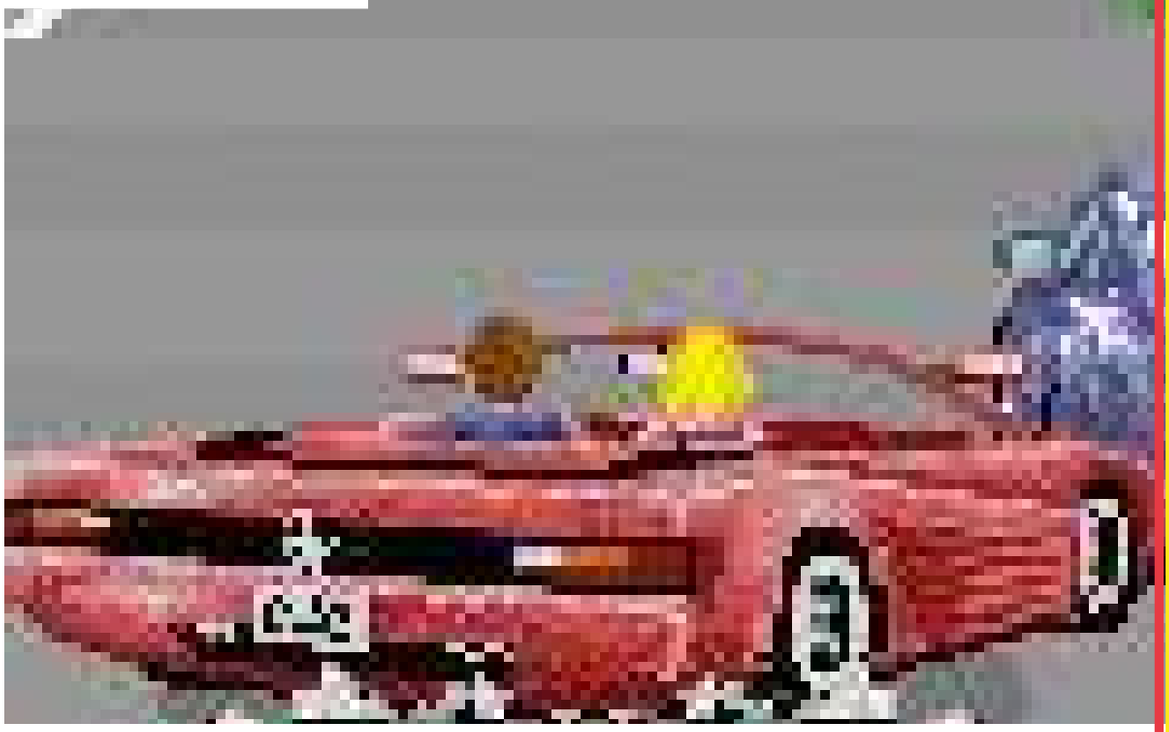
SPACE HARRIER
SYSTEM: ARCADE
YEAR: 1985

VIRTUA FIGHTER 2 (PICTURED)
SYSTEMS: ARCADE/SEGA SATURN
YEAR: 1995

SHENMUE
SYSTEM: DREAMCAST
YEAR: 1999

» Decisions, decisions.

» *OutRun*'s hilly tracks and undulating scenery add to the great sense of speed.



FERRARI F355 CHALLENGE (1999; PS2 version pictured)

SHENMUE (1999; Dreamcast version pictured)

SHENMUE II (2001; Dreamcast version pictured)

PROPELLER ARENA (unreleased; Dreamcast version pictured)

VIRTUA FIGHTER 4 (2001; PS2 version pictured)

OUTRUN 2 (2003; Xbox version pictured)

PSY-PHI (2006; Arcade version pictured)

SEGA RACE TV (2008; Arcade version pictured)

INSECT SNACK
MAKING A SPLASH
FROGGER
LADY FROG
TURTLES
CROCODILE
SNAKE
FROGGER
TRAFFIC

END FROG

GGER

"Remember Frogger? I used to be so into it. Getting that frog across the street used to be my life." So said Seinfeld's George Costanza, and it's a feeling many can relate to. Martyn Carroll looks back at the iconic title from the Golden Age of arcades

LOG

OTTER

***Frogger* is such a simple game. Four directions, one joystick, no fire button.** Your job is to guide five frogs to the safety of their homes on the other side of a busy road and hazardous river. When this is complete it starts over – only with slight variations that make the task trickier. Beyond this, the main reason for playing is to see how many 'loops' you can complete and how many points you can accrue while doing so.

For such a basic concept there are a surprising number of ways you can cark it. Nine, in fact. Getting squished under a vehicle is the obvious one, but you can also drown if you fail to secure a ride on a turtle's back or passing log and fall into the river. That's right, these frogs are of that very rare variety – thought by leading amphibian experts to only to exist in videogames – that die instantly on contact with water. More realistic hazards on later rounds include crocodiles, snakes and otters that all have a taste for defenceless, non-buoyant frog. You can also die by going off the screen to the left or right (the screen doesn't wrap around), jumping into a bay already occupied by a frog (or a sneaky croc), or missing a bay and hitting the riverbank. There's a time limit, too, adding pressure to the proceedings. In short, the game is filled with danger and the slightest misjudgement is punishable by death.

Yet, when *Frogger* was released in 1981 gamers were not deterred by constant peril and were instead drawn to its novel gameplay and cute, colourful graphics. The game quickly became an arcade smash and has been heralded as one of the coin-op greats alongside the likes of *Asteroids*, *Pac-Man*, *Centipede* and *Donkey Kong*. *Frogger* was developed by Konami – a company you may have heard of as they made videogames once upon a time – and published by Sega, and the game's worldwide success strengthened the coin-op credentials of both Japanese companies.

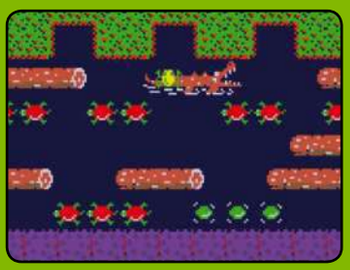
The game was also incredibly popular outside the arcades and there were countless releases for home systems. With its single, static screen and simple, sprite-based graphics *Frogger* was a good fit for the majority of computers and consoles of the day where memory and processing power was often limited. In fact, the original coin-op hardware was a basic Z80 set-up with an AY sound chip. Most of the early computer versions were unofficial, sporting titles like *Frog*, *Froggy*, ▶

PLAY TO WIN

Some tips on how to play Frogger without croaking it every time

SPRING BACK

■ The nature of the game compels you to continually move up the screen, but often, especially when crossing the river, you should consider hopping backwards to avoid enemies and better position yourself to reach vacant bays.



CROC RIDE

■ From the second round onwards, crocodiles will often appear in place of logs. Don't worry, you can still jump on the croc's back and use it like a log, but avoid jumping on the head as this will result in loss of life.

NOW YOU'RE 'FOUR' IT

■ When crossing the road pay attention to the fourth lane of traffic in particular. The sporty cars here may suddenly speed up during a round, usually if you're taking too long to progress. It pays to keep your eye on this.

▶ *Frogrun, Hopper, Hoppit, Ribbit* – you name it. Many were just called *Frogger*! Sega did officially license the game, but the way licences were divvied up back then only served to muddy the waters further. The magnetic media, or rather tape/disk rights went to Sierra which released the game for every popular computer under the sun from the Apple II to the ZX81. Wisely, Sierra titled its versions *The Official Frogger* to distinguish them from the flood of unlicensed releases.

"I became pretty famous. Even now, many people I run into mention Frogger!"

Bob Pappas

Meanwhile Parker Brothers picked up the cartridge rights and produced carts for the Atari 2600, Atari 5200, Intellivision, ColecoVision, Atari 8-bit, VIC-20, Commodore 64 and TI-99/4A. Now some of these systems support both cartridges and magnetic media, which explains why there are separate Parker Brothers *and* Sierra versions of *Frogger* for the Commodore 64 and Atari 8-bit (plus the Atari 2600 when fitted with the Supercharger cassette expansion). Furthermore, Konami developed versions of the game for the MSX and the Tomy Tutor computers. A troupe of programmers was tasked with converting *Frogger* to home systems and among them was Bob Pappas. Bob had an existing relationship with Cornsoft, a US developer which sublicensed the magnetic media rights from Sierra to develop the game for Tandy and Timex computers.

"Cornsoft got the rights to *Frogger* and asked me to build it for the Tandy TRS-80," says Bob, who was still at high school at the time. "I had no specs, no source code at all. I had to drive eight miles into town from where I lived in the North Woods of Minnesota and play *Frogger* in the arcade. I'd then go home to program from memory." The TRS-80 was a fairly primitive machine with monochrome, low-resolution graphics, which presented Bob with further problems. "I started out trying to fit all of *Frogger* on the screen, but wasn't happy with the much-reduced pixel resolution. The game didn't look graphically rich at all so I decided to split the screen to have richer game sprites. I didn't want a hard transition from the road view to the river view so I put in a scrolling screen to preserve the 'feel' of the arcade game. I also had to add clipping to my sprite engine so the very slow processor wasn't busy painting and moving off-screen sprites."

Having finished the TRS-80 version, Bob was asked to port his code to the similar-specced Timex Sinclair 1000, which was the US version of the popular ZX81. "The graphics and processor were very similar," he says, "yet trying to do any work on the Timex itself was impossible due to the poor keyboard and screen. The most challenging part was to figure out how

SHE AIN'T HEAVY

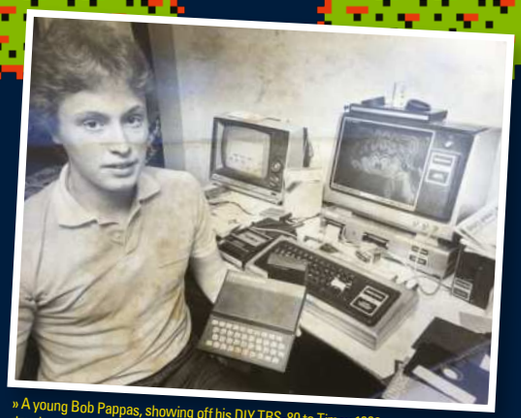
■ If you spot a pink lady frog on a log, grab her and give her a piggyback to a bay. This will reward you with 200 bonus points. Snacking on a fly also awards 200 points. Take advantage of these bonuses to boost your score.

BEAR LEFT

■ The left-most bay is the most difficult to reach, so it's wise to fill that first. This is especially true after prolonged play, as on some rounds a speed transition may make it almost impossible to reach if you don't reach it early.

BOO, HISS

■ Snakes are deadly so avoid at all costs. Typically snakes will slither along the area between the road and the river, preventing you from pausing, and sometimes they take a ride on logs. Occasionally they appear in both places!



» A young Bob Pappas, showing off his DIY TRS-80 to Timex 1000 development setup.

to create a development environment that provided a quick turnaround. I settled on using my TRS-80 as the development environment and I built a ROM and a board that booted up the Sinclair to be able to receive my Z80 code from the TRS-80 via the serial cassette audio ports. This drastically shortened the development time and Cornsoft was able to move fast in the market by publishing *Frogger* for the Timex Sinclair." This also explains why the ZX81 received an official version of *Frogger* at a time when licensed titles were almost unheard of in the UK.

Frogger proved to be a catalyst for Bob's software career and he went on to work for Adobe, Microsoft and Apple. "A lot of doors were opened", he says. "I became pretty famous and made a lot of money for a teen. Many people I run into mention *Frogger!*"

The success of *Frogger* has led to more than a dozen official follow-ups and remakes over the years, along with countless clones. Parker Brothers, evidently buoyed by the success of the first game, released a sequel in 1984 for home systems titled *Frogger II:* ▶

LEAPING TO NINTENDO

Coder turned author David Lubar reveals how he converted Frogger to Nintendo systems in the Nineties

Can you briefly reveal how you got the job of converting *Frogger* to Nintendo systems?

I had been working for Absolute Entertainment, which went out of business in 1994. One of the partners, Dan Kitchen, got a job with Majesco. He contacted me to do some Game Boy conversions. When Majesco licensed *Frogger*, Dan asked me if I was interested in doing the conversion. I leapt on it (pun intended) because *Frogger* is a classic game.

» [Game Boy Color] David couldn't pass up on the opportunity to work on a classic game such as *Fogger.*

By the time you worked on your versions, the original *Frogger* was close to 17 years old. Why was it decided to resurrect such an old game at that time?

That was a decision made by Majesco. Though looking back it was a good idea, as there's both a nostalgic market for old games among people who grew up with them and a new market among younger players who are looking for something simple to enjoy. My instructions were pretty much, 'Put *Frogger* on the Game Boy and Super Nintendo.' The graphic ability of the Game Boy probably wasn't much better than the original arcade game. The Super Nintendo conversion had nicer graphics. Artist Bill Jannott did an amazing job with the water.

You also worked on *Frogger 2* for the Game Boy Color, which is a big expansion over the original. As the game's designer how did you approach the sequel?

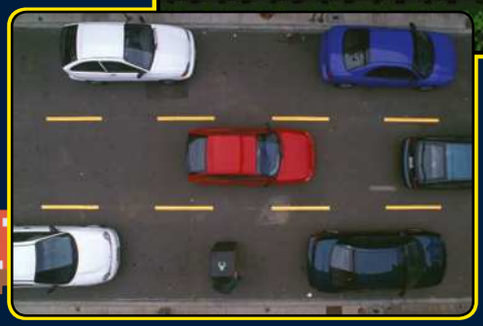
My approach was to try to push the handheld beyond what it had done so far, while making sure that the core game was fun. Pulling off coding stunts is meaningless if the game isn't fun to play. I had been fooling around with a technique to do multi-plane scrolling and this game seemed like the perfect opportunity to use that idea. I also managed to create what looked like huge sprites, by combining sprites and the background. As for gameplay, I just tried to expand the activities beyond jumping across horizontally-scrolling objects.

These days you're better known as a writer than a programmer, but where does working on the *Frogger* games fit into your list of achievements? Are you proud of those games?

Frogger was basically a simple task. I'm proud I got the chance to do it, but pretty much any competent coder could have done the same thing. I feel that *Frogger 2* can stand as one of my best pieces of coding and design. If you're curious about the writing I'm most proud of check out my novel, *Character, Driven*, which seems to be getting some nice attention – although it's nowhere near as popular as *Frogger*!

» [PS3] *Hyper Arcade Edition* includes unlockable skins from Konami hits *Castlevania* and *Contra* (pictured).

» The episode of *Seinfeld* featuring *Frogger* ends with a great gag, as George tries to wheel the coin-op across a busy road.



"For high-level Frogger play the biggest challenge is handling the speed transitions"
Don Hayes

▶ *ThreeeDeep!* As the subtitle suggests, the game features three individual screens of frog-hopping action rather than one. An arcade sequel (of sorts) arrived in 1991, on the tenth anniversary of the original, courtesy of Sega. Called *Ribbit!* the game introduced coin-op play, varied stages and bonus rounds.

It wouldn't be until the late Nineties, however, that the *Frogger* name returned to the fore. Hasbro Interactive licensed the property from Konami and successfully rebooted the property for PlayStation and PC in 1997. Simply titled *Frogger*, the game followed the-then popular trend of taking classic coin-ops and giving them a polygonal makeover. The following year more traditional updates were released for the game.com, Game Boy Color, Super Nintendo and Mega Drive. The floodgates then opened and between 2000 and 2012 not a year went by without some kind of *Frogger* release. There was *Frogger: The Token Update*, *Frogger: The Improbable Adventure*, *Frogger: The Rudimentary RPG* and not forgetting *Frogger: With Puzzles*. In all seriousness, some of the entries are worth playing (see the 'Frogspawn' box out for the most interesting ones), but it's often tricky to tell whether they're aimed at nostalgic adults or their young children.

None of these releases have any bearing whatsoever on the iconic original which has become firmly ingrained in popular culture along with games like *Space Invaders* and *Pac-Man*. Before *Frogger* cameoed in *Wreck-It Ralph* and, er, *Pixels*, the game famously featured in US sitcom *Seinfeld* (as referenced in this article's intro). In an episode from 1998, George Costanza visits an old high school haunt and finds the *Frogger* machine he used to play is still there, and what's more his ten-year-old high-score is still standing. This amusing plot threat actually highlighted another element of the *Frogger* phenomenon – it's a hotly-contested high-score game.

FROGSPAWN

A round-up of the key sequels that ventured 'beyond the pond'

FROGGER II: THREEEDEEP!

1984, VARIOUS

■ This sequel for home systems sees you progressing through three separate screens. The first screen (pictured above, on the Atari 8-bit) is underwater, proving that our amphibian hero can swim after all! An odd game that feels slightly thrown together.

FROGGER

1997, PS1/PC

■ The packaging proudly exclaimed the return of a gaming icon with 'He's Back!', and it wasn't wrong. This is one of the best examples of how you update a classic for the PlayStation era, and it still holds up well today, despite the time limits sapping some of the fun.

FROGGER 2: SWAMPY'S REVENGE

2000, PS1/DREAMCAST/PC

■ The 1997 *Frogger* revived the series and this excellent sequel from Blitz Games basically acted as a springboard for future titles, moving further away from the simple arcade challenge of the original into adventure-platformer territory.

MAKING A SPLASH: FROGGER

When the episode was broadcast George's score of 860,630 points would have put him at the top of the Twin Galaxies rankings, comfortably beating Mark Robichek's score of 442,330 which had stood since 1982. Although the score was fictional, it was deemed beatable and in June 2009 two of the game's best-known professional players, Pat Laffaye and Don Hayes, vied to topple the score at a special gathering. Don says: "There was an event set up at the Challenge Arcade in Pennsylvania for both Pat and myself to try and break the fictional score. Neither of us did it there, but I surpassed the score on MAME and Pat beat it on arcade after that."

In many ways *Frogger* is one of the perfect high-score games. There's no 'kill screen' as in *Pac-Man* or *Donkey Kong*, so it's not a case of point pressing within a set number of rounds (the onscreen round indicator stops increasing after round 15 but the game continues regardless). On the other hand, it never becomes an unending endurance challenge because the game requires lots of skill to survive, especially as the speed of objects often changes as you progress. It basically boils down to careful planning and unwavering focus. "For high-level *Frogger* play, the biggest challenge is handling the speed transitions that occur during the game," reveals Don, who has been setting scores on the game since April 1983. "While there isn't a kill screen, there actually is a sequence of events that can happen where a speed transition will make it almost impossible to finish a particular board. And speed transitions that happen while you're trying to get through the cars and trucks can be deadly. This is where skill and focus mostly come into play to avoid unnecessary mistakes."

The current high-score stands at 970,440, achieved by Michael Smith in September 2012. Don believes that the score will be beaten. "A million is achievable," he says. "All three top players have been within about half an hour of doing it out of a five-plus hour game. I'm not finished with it yet. It's still on my videogame to-do list."

So *Frogger* may soon be in the news again, when a seven-figure score is finally registered. But to be honest, the game's enduring appeal means that it has never really been away, and it will continue to entertain, charm and challenge gamers for years to come. Not bad for such as simple game. ★

» [PS2] Many of the later games in the series feature crazy multiplayer modes.

FROGGER 2

2000, GAME BOY COLOR

■ Although related to *Swampy's Revenge*, this Game Boy Color release was designed with handheld gaming in mind, and is ideal for playing in short bursts. You can blaze through it fairly quickly, and replay value isn't great, but it's a lot of fun while it lasts.

FROGGER'S ADVENTURES: TEMPLE OF THE FROG

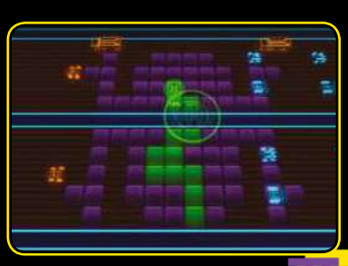
2001, GAME BOY ADVANCE

■ Continuing on from *Swampy's Revenge*, this is a fast-moving platformer with added adventure elements that's a good fit for the handheld. Much better than 2002's *Frogger Advance*, which is as dull as dirty pond water.

FROGGER'S ADVENTURES: THE RESCUE

2003, PS2/GAMECUBE/PC

■ The later *Frogger* games for home systems are fairly uninspired 3D efforts, but this one is a cut above thanks to the addition of puzzle elements that keeps things interesting. If you like this then try the 2005 DS/PSP game *Helmet Chaos*.



FROGGER: HYPER ARCADE EDITION

2012, PS3/X360/WII

■ In many ways this downloadable title is the ultimate *Frogger* package, featuring a wealth of game modes – some classic, most brand new – and multiplayer support. It's a kitchen sink affair, but done with obvious affection for the original.

CONVERSION CAPERS

We compare all 20 of the home conversions released in the early Eighties. That's a lot of Frogger

▶ ATARI 2600 (CART)

The standard 2600 version is a surprisingly good effort. The graphics are basic and prone to flicker, but all of the features are here and it plays pretty well. The collision detection is a tad suspect but it's not a major issue.

◀ INTELLIVISION

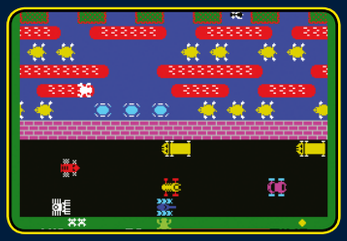
This version features simple graphics and sound, but it plays well and is undeniably *Frogger*. As you'll see in this round-up, it's very difficult to truly mess up a *Frogger* conversion. One interesting note: the screen wraps around on the early levels.

◀ ATARI 2600 (TAPE)

This cassette version required the Starpath Supercharger add-on to run, but if you owned one then this was the version to go for. The extra memory built into the device is used to excellent effect to boost presentation.

▶ COLECOVISION

The pastel hues aside, this is one of the best versions available in terms of playability. Movement is quick and smooth and very close to the arcade original. The TI-99/4A version is almost identical to this so that also comes with a recommendation.



▶ ATARI 8-BIT (CART)

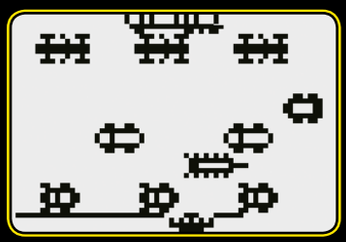
The A8 cartridge version is impressive. The graphics are good, the sound is not too annoying, and movement is nice and smooth. As you'd probably expect the version for the Atari 5200 console is exactly the same as this.

▶ TANDY COCO

The Color Computer lives up to its name with this typically garish effort that's a bit clunky in places (movement is far from smooth), but it generally plays okay. The Dragon 32 version, distributed by Microdeal in the United Kingdom, is identical.

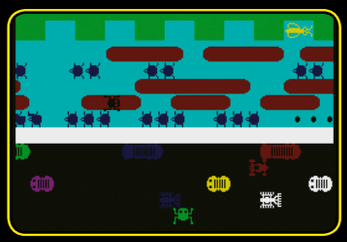
▶ SINCLAIR TIMEX 1000

This version of *Frogger* is by Bob Pappas, who also developed the TRS-80 version and is therefore very similar, albeit with the colours inverted. It's the best *Frogger* game available for this machine (and therefore the Sinclair ZX81, too).



◀ TANDY TRS-80

How do you do *Frogger* on a limited, low-res machine like the TRS-80? You place the road and river on separate screens so that the graphics can be larger and the speed can be maintained. The result works surprisingly well.

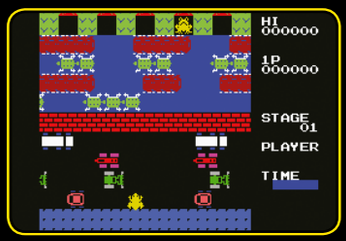


◀ SINCLAIR TIMEX 2068

The ZX Spectrum never received an official version of *Frogger*, but the enhanced Timex model did – and, sadly, it really wasn't worth the effort. Poor graphics, terrible sound and turgid playability see this sink straight to the bottom of the pond.

▶ MSX

Konami produced this cart for the first-generation MSX line and it's a solid version overall, spoiled only by the placement of the score and status panel on the right of the screen which results in a squat, narrow play area.



MAKING A SPLASH: FROGGER

▶ ATARI 8-BIT (DISK V1)

For reasons unknown, Sierra released two separate disk versions for the Atari line. This one, by John Harris, is very similar to the cartridge release (adding some weight to the belief that they were both based on the same core code).

▶ COMMODORE VIC-20

Okay, this is one of the rare exceptions to the 'you can't screw up *Frogger*' adage. Visually, it's really rough and the messy graphics make crossing the river really difficult (although, like the Intellivision version, the screen wraps around).

◀ ATARI 8-BIT (DISK V2)

This alternative version, from Chuck Benton, is slightly uglier than the other Atari 8-bit version, and isn't as smooth, either, but it does feature a unique simultaneous two-player option where our green hero teams up with an orange pal!

◀ COMMODORE 64 (CART)

Another decent cartridge version from Parker Brothers. Graphically it's slightly better than Sierra's disk version, but we think it doesn't play quite as well (it's more difficult for a start). There's hardly anything in it though.

▶ COMMODORE 64 (DISK)

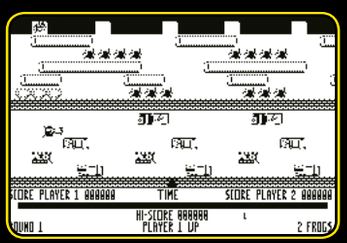
This was coded by Chuck Benton who did the second Atari 8-bit disk version, and as such it's very similar to that version in terms of look and feel. It just has the slight edge over the cartridge version of the game, and scores extra marks for its foot-tapping tunes.

▶ TOMY TUTOR

This appears like a simplified version of the ColecoVision release. It's nice and colourful, and it plays well enough. It features all of the enemy types – the only issue is that they appear all at once, rather than as you progress through the levels.

◀ VIDEOPAC G7000

Phillips' Videopac G7000 – or Magnavox Odyssey 2 – version is another one that splits the road and river over two screens, although this one does benefit from colour graphics. It's very basic and bare-boned but does capture the feel of the coin-op.

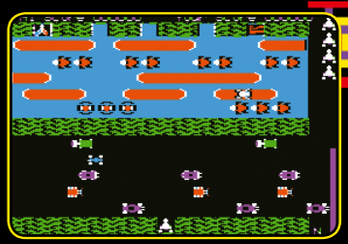


◀ APPLE MAC

It does make you wonder why they bothered here, as the game was never the best fit for the monochrome Mac. Once again it's definitely *Frogger* and all the features are here, so its existence is just about justified.

▶ APPLE II

This version is as ugly as hell (check out the masking if you don't believe us!), but as per usual, the graphics do not impact on the gameplay and there's a lot of fun to be had here. It certainly recreates the arcade game better than the Apple Mac version.



▶ PC-DOS

The PC version suffers from poor colours (you can select different palettes but none are ideal) and terrible sound, but following the running theme here, it plays perfectly well. If you wanted *Frogger* on your PC at the time, then you had it, buddy.

Top 25 Master System Games

retro GAMER READERS' CHOICE

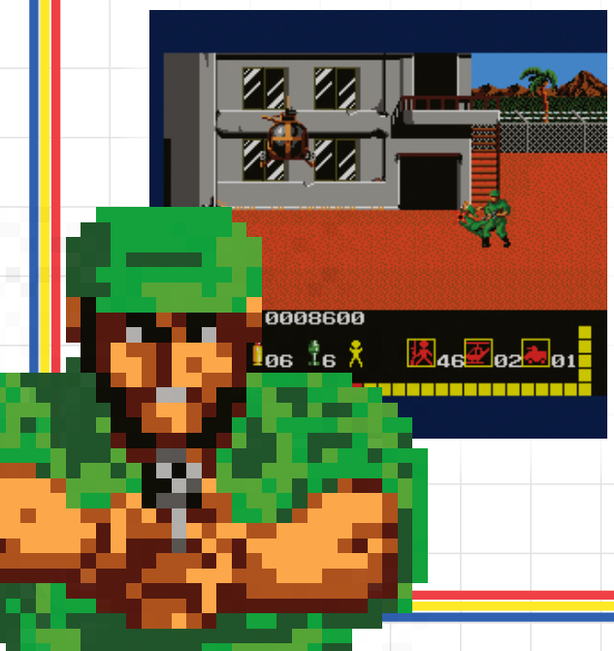
Retro Gamer readers turned out in droves to vote for their favourite games on Sega's 8-bit console – Nick Thorpe has crunched the numbers and is about to begin the countdown...

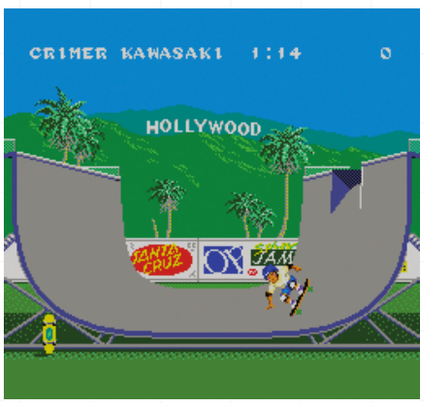
Operation Wolf

DEVELOPER: TAITO

YEAR: 1990 **GENRE:** LIGHTGUN SHOOTER

25 **The Master System's** Light Phaser peripheral got some excellent support over the years, and *Operation Wolf* is your favourite lightgun title on the system. The excellent conversion included all of the arcade game's stages and even allowed players to throw grenades using the second controller. In fact, it was such a good game that it became part of the Master System II Plus bundle in Europe, replacing previous lightgun pack-in *Safari Hunt*.





California Games

DEVELOPER: SEGA

YEAR: 1989 **GENRE:** SPORTS

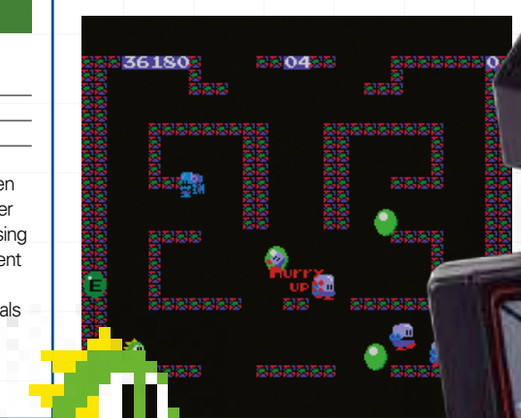
24 **Despite having a** large catalogue of arcade hits to draw on, Sega was keen to bring other big names to the Master System and so became rather active in the licensing market. These efforts ensured that Epyx's excellent multi-sports title found a perfect home on the Master System, with the console's colourful visuals really helping to bring home the sunny California feeling during each of the six events. There's a sequel too, but it doesn't live up to the original.

Bubble Bobble

DEVELOPER: TAITO

YEAR: 1988 **GENRE:** PLATFORM

23 **Taito was one** of the few major third-party developers to ever support the Master System directly, with most firms licensing their titles to Sega to get around Nintendo's restrictive NES developer agreements. Conversions like *Bubble Bobble* certainly endeared the company to the console's owners – the game features a variety of enhancements including new items and brand new level designs, as well as new ending sequences. There's some slowdown and sprite flicker, but it's otherwise an incredibly faithful conversion.



Master Of Darkness

■ **DEVELOPER:** SIMS ■ **YEAR:** 1992 ■ **GENRE:** PLATFORM

22 **We often see** those who grew up with the NES dismissing Master System games as 'off-brand' versions of their childhood favourites, and while that's often not really the case, it's hard to describe *Master Of Darkness* as anything other than a *Castlevania* clone – albeit a very good one. It's a platformer in which you're out to kill Dracula, you fight all manner of supernatural enemies and even the stairs are drawn in the same odd way. However, since *Master Of Darkness* was only released in PAL territories, where the NES wasn't so dominant, there was a good chance that its players had never experienced *Castlevania* in the first place.

The storyline in *Master Of Darkness* sees psychologist and paranormal investigator Ferdinand Social taking a journey through Victorian London to investigate a series of murders in which the bodies have been completely drained of blood. This clearly isn't the work of Jack The Ripper – though you'll meet him as the first boss – and Social finds himself drawn into a nightmarish vampiric plot. *Master Of Darkness* is a very solid platform game, featuring some nice visuals and a wide array of supernatural enemies to slay, including ghosts, zombies and bats. It's also filled with memorable moments – we'll certainly never forget being trapped in a room with a succession of possessed waxworks rapidly chasing us down.

In fact, given its high quality we were surprised that *Master Of Darkness* didn't place a bit higher on the list, but your votes predominantly favoured worldwide releases from the days before the Mega Drive hit it big. As such, the fact that the game made an appearance on this list at all is a very strong indicator of just how good it is.

> "*Castlevania* rip-off? Yup. But why not rip off something awesome? Plays great, and is a pretty decent challenge for most gamers"
> **learnedrobb**

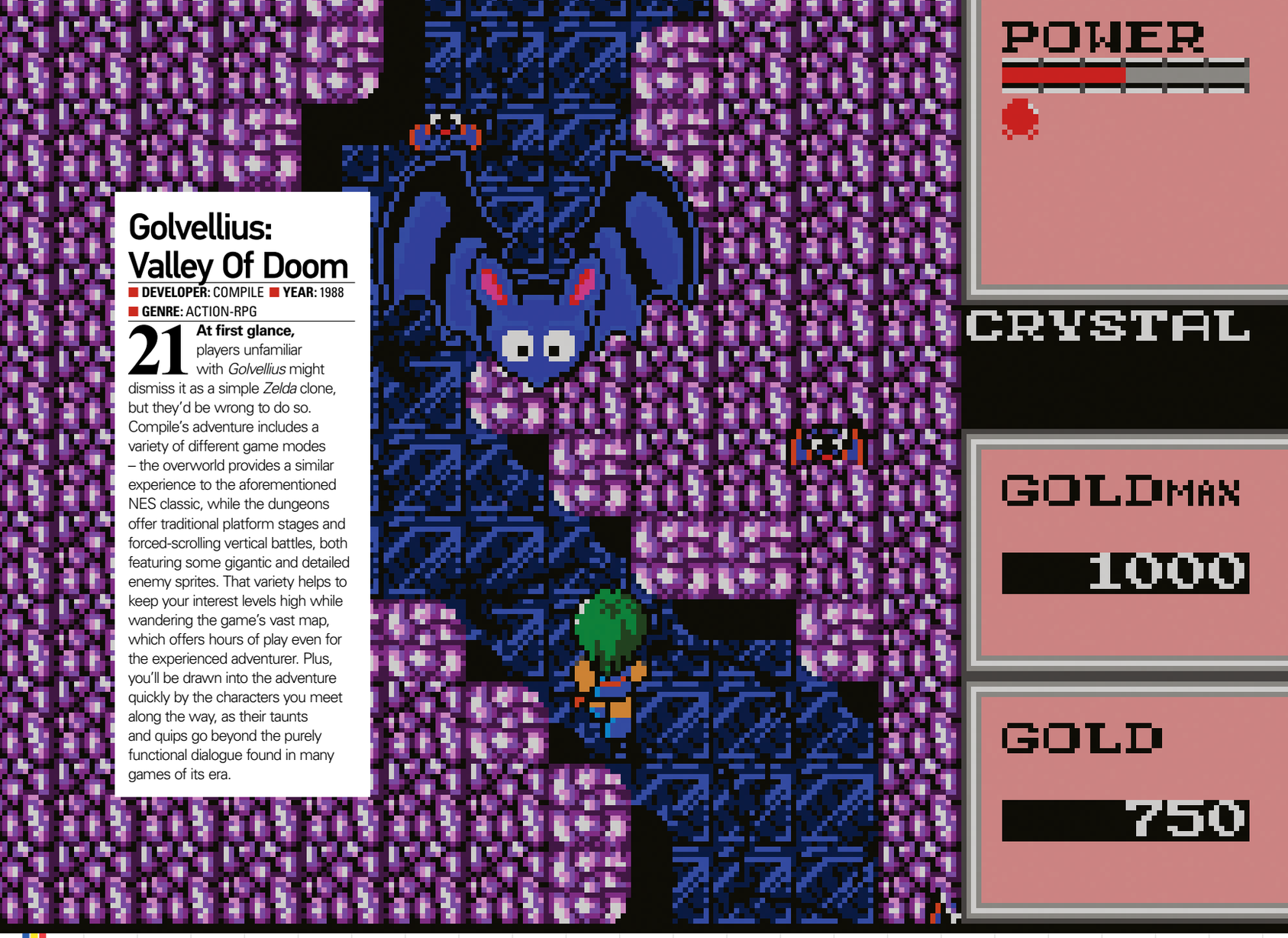
> "We'll never forget being trapped in a room with possessed waxworks"

Master Of Darkness gave us some memorable scary moments

Golvellius: Valley Of Doom

■ **DEVELOPER:** COMPILE ■ **YEAR:** 1988
■ **GENRE:** ACTION-RPG

21 **At first glance,** players unfamiliar with *Golvellius* might dismiss it as a simple *Zelda* clone, but they'd be wrong to do so. Compile's adventure includes a variety of different game modes – the overworld provides a similar experience to the aforementioned NES classic, while the dungeons offer traditional platform stages and forced-scrolling vertical battles, both featuring some gigantic and detailed enemy sprites. That variety helps to keep your interest levels high while wandering the game's vast map, which offers hours of play even for the experienced adventurer. Plus, you'll be drawn into the adventure quickly by the characters you meet along the way, as their taunts and quips go beyond the purely functional dialogue found in many games of its era.



Choplifter

■ **DEVELOPER:** SEGA
■ **YEAR:** 1986 ■ **GENRE:** SHOOT-'EM-UP

20 **The classic rescue-themed** shoot-'em-up was one of the first games to make its way to the Master System, and was the most visually impressive of those early releases. It threw around a lot of sprites at very high speed, with some smooth faux-parallax scrolling serving as the icing on the cake. Confusingly, the Master System version of *Choplifter* is actually a conversion of a conversion: it's based on Sega's coin-op, itself an enhanced conversion of Brøderbund's original computer game. This means it includes the extra environments and scoring mechanics of the arcade game, adding a bit of extra depth and visual variety over the home computer versions.

Secret Commando

■ **DEVELOPER:** SEGA ■ **YEAR:** 1986 ■ **GENRE:** SHOOT-'EM-UP

19 **You might call** it *Rambo: First Blood Part II* if you're in North America or *Ashura* if you're in Japan, but the European title makes no bones about Sega's homage to *Commando*, Capcom's classic arcade shoot-'em-up. Just like in that game, you wander up-screen shooting all manner of infantry grunts and blowing through end-of-stage fortresses. It's a bit slower than *Commando* and features rather chunkier sprites that seem to ape the *Ikari Warriors* style, but retains the two-player co-op play that makes these games so much fun, ensuring that you'll keep coming back.

Asterix

■ **DEVELOPER:** SEGA ■ **YEAR:** 1991 ■ **GENRE:** PLATFORM

18 **For a console** which thrived on platform games and was more popular in Europe than elsewhere in the early Nineties, a licensed *Asterix* platformer was more or less the perfect release. The setup is rather plain: the Romans are holding the druid Getafix captive, and without his potions the Gauls will be powerless to resist the imperial forces. However, the gameplay is fantastic. High-quality platforming is common on the Master System, but what sets *Asterix* apart is the fact that you can opt to play as Asterix or Obelix. The former relies on his small size and potions, while the latter offers brute, block-smashing strength. Each stage has two layouts, one tailored to each character's strengths, so you'll have a rather different experience depending on which one you pick.

"Rock hard, but so satisfying to control. I loved the first level's theme"
SMD

Ninja Gaiden

DEVELOPER: SIMS **YEAR:** 1992 **GENRE:** PLATFORM

17 **When discussing forgotten** entries in classic series, the Master System version of *Ninja Gaiden* demands a mention. Licensed from Tecmo but developed by SIMS, then a subsidiary of Sega, it's an entirely new adventure which retains many elements of the NES games while adding some twists of its own. Chief among these is a brand new wall-jump move, which replaces the climbing of previous games. While the visuals and music deserve praise, what makes the game so good is simply the joy of movement. Ryu Hayabusa is an incredibly agile chap, who moves quickly and is capable of navigating dangerous environments with ease. You'll feel like you have actual ninja skills when you've spent a while with the game, and slicing up bad guys is all the more enjoyable as a result.

"I was gutted as a kid when I found out it wasn't a straight conversion, but ended up enjoying it way more than similar 8-bit games"
BellyFullOfHell

Enduro Racer

DEVELOPER: SEGA **YEAR:** 1987 **GENRE:** RACING

16 **Despite the fact** that ROM cartridges were unavoidably more expensive than the tapes and disks used for most home computer software, Sega and its distributors were keenly aware that price was a factor for many consumers and offered a range of lower-priced games. The budget-oriented Sega Card format didn't last too long, but Mastertronic had success in the UK by offering a range of titles for as little as £9.99 – and judging by comments we received, it seems that it was the price that persuaded many of you to buy *Enduro Racer*.

The game itself is a bit of an oddball, as it doesn't really resemble Sega's arcade game of the same name, instead playing more or less like an isometric *Excitebike*. It stands up to extended play well, thanks to its varied off-road stages and an upgrade system that really makes a difference – you'll definitely notice if you're using a better engine or improved suspension. Take note: the Japanese Mark III version of *Enduro Racer* utilises a bigger cartridge than the Western release and boasts additional stages, more varied scenery and improved presentation as a result.

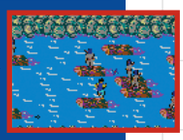
Double Dragon

DEVELOPER: SEGA
YEAR: 1988 **GENRE:** PLATFORM

15 **The classic Technos** beat-'em-up made its way to the Master System via Sega. It's an excellent conversion featuring faithful level designs, all the enemies and even all the weaponry of the coin-op. Best of all, it includes the simultaneous two-player mode that the NES version lacked.

The Ninja

DEVELOPER: SEGA
YEAR: 1986 **GENRE:** SHOOT-'EM-UP



14 **This updated version** of *Ninja Princess* is another game that many UK readers enjoyed as a £9.99 budget special. The fast-paced shoot-'em-up action is tough and it's hard to gather the five scrolls required to beat the game, but there's a lot of love for *The Ninja*.

Wonder Boy

DEVELOPER: WESTONE
YEAR: 1987 **GENRE:** PLATFORM

13 **The first *Wonder Boy*** release isn't nearly as complex as later entries in the series, but that's why we like it – it's a straightforward dash to the end of each stage. This is a rather fine conversion of the coin-op, and we always did like the skateboard as a power-up.

Alex Kidd In Shinobi World

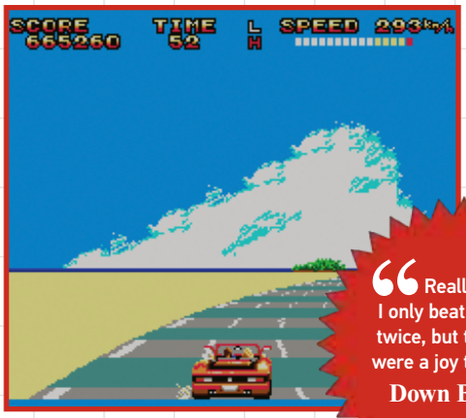
DEVELOPER: SEGA
YEAR: 1990 **GENRE:** PLATFORM

12 **Originally planned as** a parody game titled *Shinobi Kid*, Alex Kidd was drafted in to add some crossover star power. The result is a great game which adds more platforming to the *Shinobi* formula and more combat to *Alex Kidd*, and should still manage to satisfy both sets of fans.

R-Type

DEVELOPER: COMPILE
YEAR: 1988 **GENRE:** SHOOT-'EM-UP

11 ***R-Type* received a** number of fantastic conversions over the years, with the Master System's standing out as one of the best of the early efforts. There's some sprite flicker as you might expect, but it's otherwise amazing and an exclusive secret level really sweetens the deal.



> Really hard and I only beat it once or twice, but the stages were a joy to play
>
> **Down By Law**

> At the time of release, it was the best home version around
>
> Out Run did a great job of emulating the classic coin-op

Out Run

DEVELOPER: SEGA ■ **YEAR:** 1987 ■ **GENRE:** RACING

10 **The Master System** didn't always fare well with conversions of Sega's high-end arcade machines, often struggling to emulate the sprite-scaling effects that made them so impressive. However, the Master System conversion of *Out Run* is a very playable representation of the classic coin-op, including all 15 courses and the three memorable tunes of the arcade game.

While better conversions of *Out Run* have come along since the Master System's heyday, this one makes it into your top ten because of the impact it had at the time of release – it was the best home version around. Compared to the largely disappointing home computer releases, the colourful visuals and smooth movement of the console game seemed just like the real thing, lending credence to Sega's claims of arcade-quality games at home.

Fantasy Zone

DEVELOPER: SEGA ■ **YEAR:** 1986
■ **GENRE:** SHOOT-'EM-UP

9 **Sega's trippy take** on *Defender* is one of the earliest examples of the cute-'em-up, and the Master System conversion is excellent. While it had to drop the backgrounds in order to get the massive bosses on screen, it's otherwise visually faithful to the original, with bright colours and surreal enemy designs. The audio is also great, with close renditions of the arcade tunes. As for the gameplay, it's a very tight horizontally scrolling blaster which requires you to locate and destroy a series of bases in order to fight each end-of-level boss. Defeated enemies drop coins to spend on power-ups, which you'll definitely need – this game is a stiff challenge despite its cartoonish visuals. We remember being utterly destroyed many, many times in our youth, but as with any great game, we kept returning for more punishment.

Wonder Boy In Monster Land

DEVELOPER: SEGA ■ **YEAR:** 1988 ■ **GENRE:** PLATFORM

8 **The second arcade** *Wonder Boy* outing was a world away from the simplistic platforming of its predecessor, retaining linear stages but introducing a currency system, shops, upgradeable weaponry and armour, and even people to converse with. There were plenty of secrets to discover too, with health and cash stashed all over the place and even hidden doors to find. The fusion of RPG elements and arcade platforming was a big hit with players, and the change of format would eventually prove to be a permanent one. The Master System conversion kept up with the coin-op due to some impressive visuals and the same cross-genre gameplay. It's a fantastic game, and remarkably one which set the stage for even bigger things to come…

> Different from its Mega Drive counterpart but still full of charm – I might even say I enjoy this version more
>
> **Black Ridge**

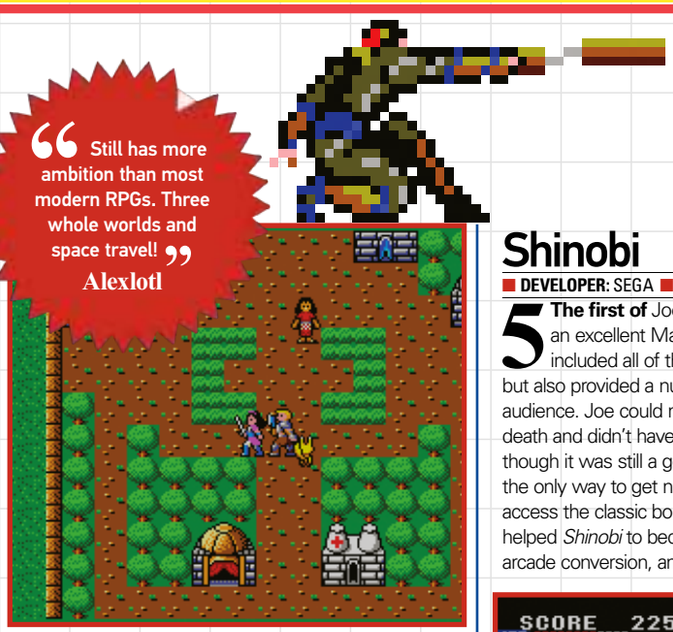
Castle Of Illusion Starring Mickey Mouse

DEVELOPER: SEGA ■ **YEAR:** 1990 ■ **GENRE:** PLATFORM

7 **For a time** in the early Nineties, it seemed that picking up a Disney platform game was a guarantee of quality – Capcom turned in some fantastic NES releases, while Sega kept its own crowd happy with the likes of *Castle Of Illusion*. Minnie Mouse has been kidnapped by the evil witch Mizrabel, and it's up to Mickey to gather the seven rainbow-coloured gems and bring her back.

Despite the Master System being targeted at a younger audience following the release of the Mega Drive, the 8-bit version of the game is noticeably harder than its 16-bit counterpart. That's not for bad reasons either, as the new level designs are tough but fair. It isn't quite as visually lovely as the Mega Drive game, but it'll certainly last you a whole lot longer – and it seems you all appreciated that.

SEGA MASTER SYSTEM/Power Base



Phantasy Star

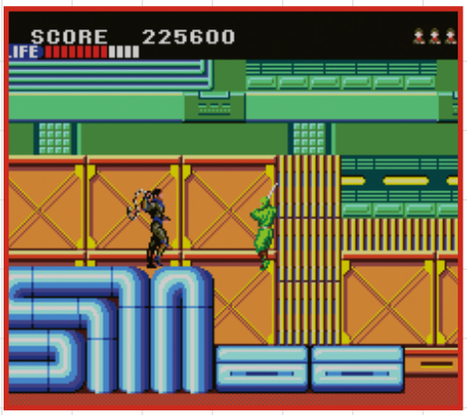
DEVELOPER: SEGA **YEAR:** 1987 **GENRE:** RPG

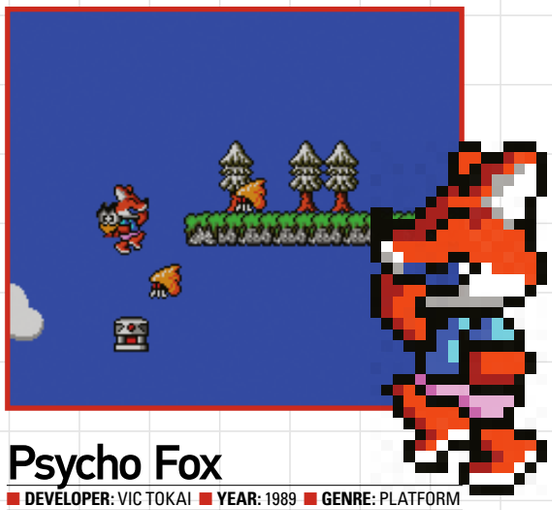
6 **Alis Landale's quest** for vengeance against King Lassic is one of the all-time great RPGs, and was highly influential in the development of the genre on consoles. The large 4-megabit cartridge enabled a huge amount of visual variety and a truly epic quest for the era, the smooth animation of the first-person dungeon scenes was a sight to behold, and the game even let players save via battery backup. However, that technology meant *Phantasy Star* was a pricey release, which we suspect is why it failed to crack the top five.

Shinobi

DEVELOPER: SEGA **YEAR:** 1988 **GENRE:** RUN-AND-GUN

5 **The first of** Joe Musashi's adventures received an excellent Master System conversion, which included all of the arcade stages and enemies but also provided a number of updates for the home audience. Joe could now sustain multiple hits before death and didn't have to rescue all the kidnapped kids, though it was still a good idea – they represented the only way to get new weapons, regain health and access the classic bonus stages. These enhancements helped *Shinobi* to become your top Master System arcade conversion, and we can't argue – it's ace.





Psycho Fox

DEVELOPER: VIC TOKAI **YEAR:** 1989 **GENRE:** PLATFORM

4 **In the days** before *Sonic The Hedgehog*, fast-paced platformers were rare, but *Psycho Fox* was one of them. Taking the basic gameplay template of NES platformer *Kid Kool*, it stars a fox which can transform into a variety of creatures – a hippo with a powerful punch, a monkey with a high jump and a really speedy tiger. Top-notch stage design and tight controls ensured the game's success, and Vic Tokai's momentum-based platforming template would later be used for *Decap Attack* on the Mega Drive.

Sonic The Hedgehog

DEVELOPER: ANCIENT **YEAR:** 1991 **GENRE:** PLATFORMER

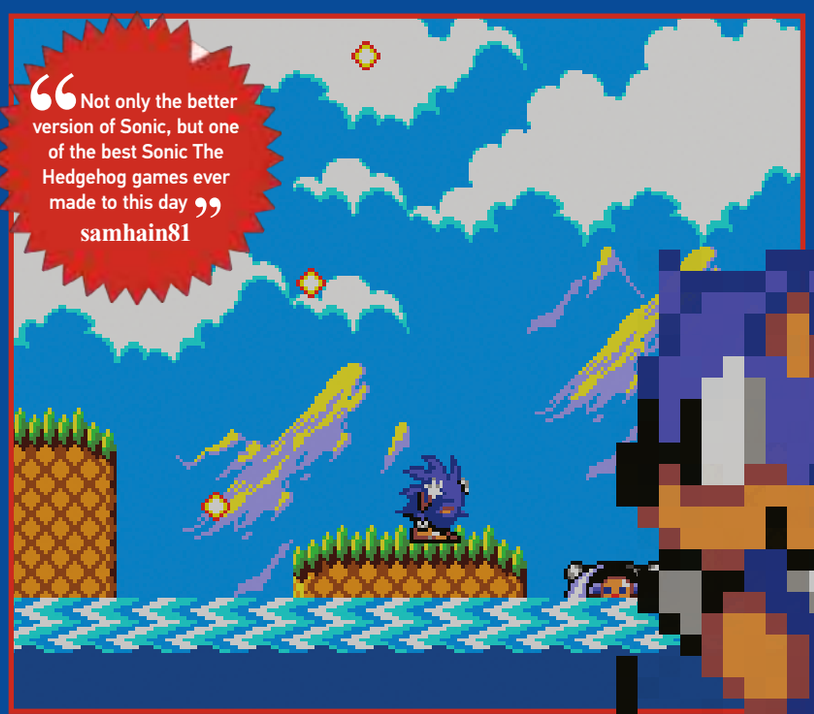
3 **While Sonic might** have been created to promote the Mega Drive's strengths, Sega wasn't going to deny its 8-bit customers a chance to experience its exciting new mascot. But with Sonic Team busy creating the full-powered 16-bit version, Sega didn't have the resources to develop it in-house – enter Ancient, a new team co-founded by notable gaming musician Yuzo Koshiro. Knowing that a straight conversion of the Mega Drive platformer would be impossible, the team instead opted for a loose adaptation which lost a little of the speed and all of the loops, but remained faithful to the spirit of the original.

In fact, it's even arguable that the Master System version of *Sonic The Hedgehog* is actually a better game than its 16-bit counterpart. It might be missing a few of the flashier tricks, but the game includes completely exclusive stages with more varied level design, including gimmicks such as an auto-scrolling stage, an entirely vertical stage and a proper maze that had no place in the Mega Drive game. And while only the title theme and Green Hill Zone music remain from Masato Nakamura's iconic soundtrack, Koshiro's new music is of equally high quality.

This game set the tone for Sonic's later Master System outings, both of which would be completely disconnected from the Mega Drive releases. It served an interesting dual role, too – it was the final game for the Master System in North America, but in Europe it replaced *Alex Kidd In Miracle World* as the Master System II's built-in game, serving to extend the life of the console by bringing in thousands of new Master System owners. However, whether you experienced it as a swansong or an introduction, it's hard to deny that *Sonic The Hedgehog* is an excellent platformer which deserves its high place on this list.

"Arguably a better game than its 16-bit counterpart"

Master System Sonic impressed with is more varied level design



> The perfect bundled game. Bags of character and variety, loads of replay value
> **ivortheinjun**

Alex Kidd In Miracle World

DEVELOPER: SEGA **YEAR:** 1986 **GENRE:** PLATFORM

You had to know that if Sonic was high on this list, his predecessor as Sega's mascot wasn't going to be too far away. Despite having received five games on the Master System, it's Alex Kidd's debut that stands the test of time as the strongest instalment in the series and one of the strongest games on the console. *Alex Kidd In Miracle World* owes a lot to Nintendo – the game takes inspiration from the incredibly popular *Super Mario Bros*, with its visual similarities and destructible blocks showing the influence clearly. However, Alex's choice to punch the blocks instead of headbutting them is only the start of the differences.

While Nintendo's hit is a fairly simplistic platform game, Sega loaded its release with features that keep the gameplay varied. While Mario's coins existed solely to provide extra lives, Alex can spend the money he collects in shops throughout the game. He can also store items to use later on, a feature which would eventually be added to Nintendo's series, and even ride vehicles such as a motorbike and a speedboat. The rock-paper-scissors boss battles seem like a strange inclusion, but for many they're simply a part of the game's unique charm.

Sega's fortunes never benefited from Alex Kidd in the same way as Nintendo's did from Mario, but it's not hard to explain why this game placed so high in your list – it was built into all North American Master System II consoles and a great many of the European ones, ensuring popularity from the get-go. Gamers would return to their cartridge-free consoles time and time again to play it, and they were rewarded with the kind of lengthy, challenging platform adventure that is not commonly surpassed on any format. In fact, on this console only a single game manages to do so…

> **Loaded with features for varied gameplay**
> Alex Kidd is far more than a Super Mario Bros variant

> Picked this up when I was eight because I thought the cover was awesome, then never played anything but this for a year!
> **Lorfarius**

Wonder Boy III: The Dragon's Trap

DEVELOPER: WESTONE **YEAR:** 1989 **GENRE:** PLATFORM

retro GAMER READERS' CHOICE

If there's one thing the Master System excels at, it's definitely platform games – the genre is clearly dominant in this top 25, so only a platformer of exceptional quality could possibly rise to the top. Described in a 95% *Mean Machines* review as "one of the best games of its type available on any console," it's fair to say that *Wonder Boy III: The Dragon's Trap* is a platformer of exceptional quality.

Beginning in the final level of *Wonder Boy In Monster Land*, you get the chance to fight the final boss of that game again – but this time, defeating it reveals a nasty surprise. Our plucky hero is cursed upon the dragon's defeat, transforming him into a fire-breathing lizard. He escapes the collapsing castle but now needs to become human again, so a new quest begins, taking him to locations such as a spooky forest, a dry desert and a fiery cave. That sounds like standard fare for the series but unlike its predecessor, *Wonder Boy III* doesn't contain individual stages. Instead, it takes place in a single large world where everything is connected and you're only limited by the obstacles you can overcome.

Of course, as a lizard you can't overcome too many obstacles, but during the journey you'll encounter more dragons and be transformed into new animal forms. The first is a tiny wall-scaling mouse, while later ones include a lion with a massive sword swing and an eagle which can fly. All of these forms enable you to visit new areas and access new areas in old ones, creating the feeling of a grand adventure where undiscovered secrets could be hiding anywhere.

The *Metroid*-esque structure is certainly great, but it's far from the only thing that makes *Wonder Boy III* so good. The controls are dead-on while the vibrant, detailed visuals are superb and sprite flicker is kept to a minimum. In some places, the game almost reaches the visual quality of early Mega Drive releases. The soundtrack contains a number of superbly composed tunes and even supports the FM add-on for improved sound, despite never having been released in Japan.

Wonder Boy III would be a great game on its own, but as a sequel it really acts as a model for others to follow. New players are brought into the action quickly thanks to the game's inspired introduction, while old fans have a whole new structure and new abilities to play with. It's telling that *Castlevania: Symphony Of The Night*, a PlayStation classic considered by many to be the pinnacle of that series, shares a lot of its design traits with *The Dragon's Trap*. It just goes to show that while **Retro Gamer** readers have voted for *Wonder Boy III: The Dragon's Trap* as their favourite Master System game, its design principles ensure that it would be an exceptional game on any platform.

5 reasons why it's great

- It's a truly epic adventure, requiring multiple nights of play and password saves to reach the ending.
- Each of the different transformations feels truly unique, changing the way you play the game.
- It's a great example of the Master System's visual strengths, with colourful graphics and detailed backgrounds.
- Shinichi Sakamoto's soundtrack is fantastic, and should get far more recognition – there's even an FM version!
- Beginning from the final level of the previous game is one of the greatest introductions to any game, ever.

THE MAKING OF...

MISSILE COMMAND

Vivid nightmares, errant missiles and living under the threat of nuclear war were just a few of the obstacles that Dave Theurer and Rich Adam faced while creating Missile Command. Darran Jones investigates further...

IN THE KNOW

- **PUBLISHER:** ATARI
- **DEVELOPER:** DAVE THEURER
- **PLATFORM:** ARCADE
- **RELEASED:** 1980
- **GENRE:** SHOOT-'EM-UP

Dave Theurer is not an easy man to get hold of. The genius behind such arcade delights as *Tempest*, *I, Robot* and *Missile Command* is fiercely protective of his private life; so much so, in fact, that it's taken eight long years of gentle coercion and downright pleading for him to finally commit to an interview about one of the industry's most iconic games.

Still, when you consider the sheer pedigree of Dave's title, the long wait has definitely been worth it, with the precise controls and intense pressure the game offers remaining just as refreshing today as the first time you dropped 10 pence into it.

One of the most interesting facts about *Missile Command* is that while the gameplay mechanics are all Dave's, the concept itself actually came from higher up within Atari. "I remember my manager, Steve Calfee, told me to create a missile defence game wherein the player would defend against incoming missiles, which could be seen on a radar display," confirms Dave when we quizzed him about *Missile Command*'s origins. "We took it from there, tossed out the radar screen and added cities, missile bases and so on."

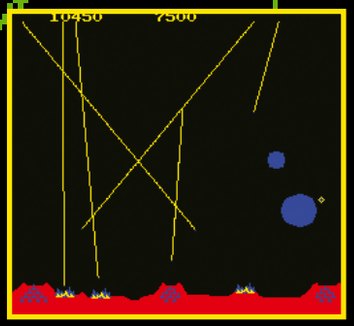
It's a somewhat inauspicious start for one of the most iconic games of the Eighties, but with the constant threat of the USSR and nuclear war being high on the agenda, it's hardly a surprise that the concept had germinated in the mind of Atari (coin-op) president Gene Lipkin.

The bleak link became even more obvious when names were being thrown about for the new project, with *Missile Command* being just one of the possible choices. "Some of the names I recall included *Missile Command*, *Ground Zero*, *The End* and *Armageddon*," continues Dave. "There were various pro and con reasons given for each name suggestion, but recognition was a key concern. Lots of people don't know the meaning of 'Ground Zero' and 'Armageddon'. I don't recall being too bleak as a factor. As I recall, Gene Lipkin suggested the name *Missile Command*. There was a general consensus that that was a really good name, so we went with it."

While the concept itself had been born from the Cold War threat, Dave didn't want to use *Missile Command* as an excuse to glorify something that, at the time, was considered a very real threat. "I wanted people to become aware of the horrors of a nuclear war. I didn't want to put players in the position of nuking entire cities, as entertainment, because it would desensitise them from such horrors," he explains. "However, a defensive position was

THE MAKING OF: MISSILE COMMAND

» The instruction manual for the Atari 8-bit. You just don't get artwork that looks like this anymore…



» [Arcade] Getting missiles to swerve around your explosions was one of the development challenges.

acceptable, since what's nobler than saving 10 million people from annihilation? The final lesson, though, is that nobody wins in a nuclear war, and that's why we have 'THE END' explode to fill the screen, after all the cities are gone."

It's something that Rich Adam, *Missile Command*'s junior programmer, also touched upon when we asked him about the potential controversy that *Missile Command* might have attracted at the time. "I didn't feel as strongly as Dave, but I certainly did not want to go into something that would simulate a true, aggressive World War III scenario," he begins. "We touched on it to a point, but our concept was always [that] we're blowing up pixels. It's an abstract, conceptual game. It was certainly in our collective minds, but it was not something that dissuaded us or diverted us from trying to make something fun."

Despite the general concerns that were connected to *Missile Command*, Dave, Rich and the rest of the team remained resolutely excited about the project. After all, this was the beginning of the videogame industry, and it was an incredibly exciting time for everyone involved.

"During the first few years, we felt like pioneers," recalls Dave with an obvious sense of pride. "There weren't many [video] arcade companies at the time. There weren't many game development tools either. We had to develop most of them in-house. I'm not sure we thought about it that much, though. Mostly we just thought about how we could make our games more fun to play."

It's a sentiment that Rich wholeheartedly agrees with: "It was an outstanding environment to work in and we were lucky because we were filling the void. Every idea was fresh and new and hadn't been tried before, and that was really fun. Nowadays it's very hard to come up with something novel and different."

> **"I didn't want to put players in the position of nuking cities as entertainment"**

As with many of Atari's games, *Missile Command* was built from the ground up, meaning that Dave and the rest of the team didn't have the benefit of using an existing engine, something that is commonplace in today's industry.

"You were always bringing out new hardware in that day and age," explains Rich, "so that was one of the key difficulties faced with new projects." The constant creation of new custom-built technology also meant that there was a strong relationship between Dave and the rest of the hardware team while *Missile Command* was being created.

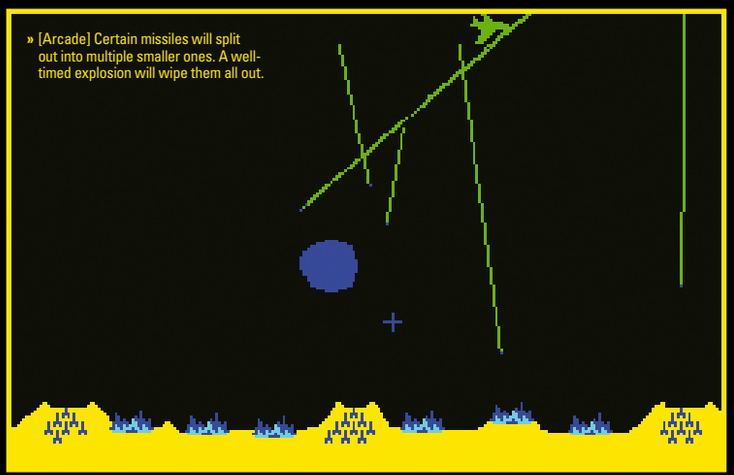
"The hardware designer designed the custom hardware just for this game," explains Dave about *Missile Command*'s early development. "He knew that the bottom portion of the screen needed more colours for the cities, bases, land, etc. No other game, except for a possible sequel, was planned for this hardware. The hardware designer, Dave Sherman, was excellent, and quickly came up with a design, which was wire-wrapped for development purposes."

It was at this point that we were keen to find out if any other system other than a trackball had been considered when *Missile Command* was first pitched. "My recollection is that it was going to be a trackball from the start and it never deviated from that," confirms Rich. "From the moment we implemented it, it was pretty obvious that the trackball was optimum."

"We were using trackballs in a lot of our other games at the time such as *Soccer* and *Football* before *Missile Command*," continues Dave. "It seemed like a good match, so a trackball was planned from the very beginning."

While the trackball easily made the transition from prototype to final games, other aspects of *Missile Command* weren't quite as lucky, with numerous ideas being dropped during the game's six-month development. "When I was first creating the coastline you were defending, I pathetically tried to create a Californian-looking coast that turned out to be awful-looking," recalls Rich. "Lyle [Rains] was the one who eventually came up with the fortress-looking cities that you had to defend."

The ability to blow up real-world cities, even if they were depicted by simple pixels, was soon ditched, which in turn helped distance the game from any possible real-life connections. There were plenty of other ideas that were tested, but they



» [Arcade] Certain missiles will split out into multiple smaller ones. A well-timed explosion will wipe them all out.

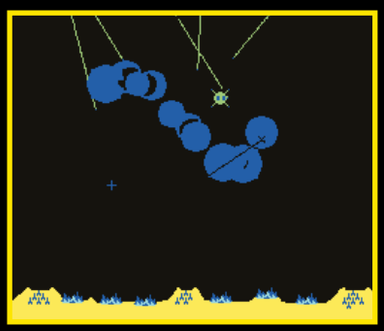
A word from Lyle Rains

WE MANAGED TO speak to Atari's former senior executive about the popularity of *Missile Command*, and here's what he told us.

"Dave Theurer, as was also the case with *Tempest*, did a fantastic job of tuning the pacing of the game and making the controls responsive.

"Atari certainly did not shy away from battle simulations in our products, although we avoided direct bloody violence on human avatars and mobiles for about two decades. But the world in 1981 was still involved in the Cold War. The idea of nuclear holocaust on cities added an extra edginess to *Missile Command* that resonated with some folks as being a bit too close to home. One could speculate that, as part of the popular culture of the Eighties, *Missile Command* even had some subliminal influence on defence policy-makers, as they contemplated the so-called 'Star Wars' missile defence system. If they had actually played the game, they would have known that you always ending up losing."

THE MAKING OF ...
MISSILE COMMAND



» There was assorted memorabilia created for *Missile Command*, including an album, a collector's pin and even an audiobook set.

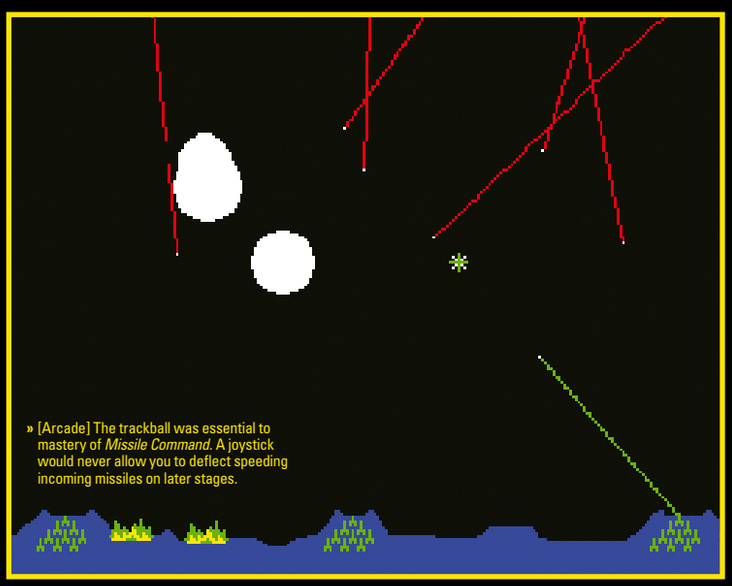
too quickly fell by the wayside. Dave reveals some of the other ideas that were implemented and goes on to explain why they were eventually ignored: "Submarines would pop up and shoot missiles, which didn't make sense, as every other threat was coming from the sky. Railroads hauled missiles between the cities and the bases, but it [was deemed] too complicated for players. There were programmable names for the cities, which made it more relevant for players in areas near the named cities, but less relevant for players out of the area, but it was too much work for operators to program in the cities' names.

There was also a giant physical display above the monitor containing flashing lights, status indicators and other elements. It was too expensive, too hard to maintain – light bulbs too hard to replace – and too hard to play the game and watch this external display."

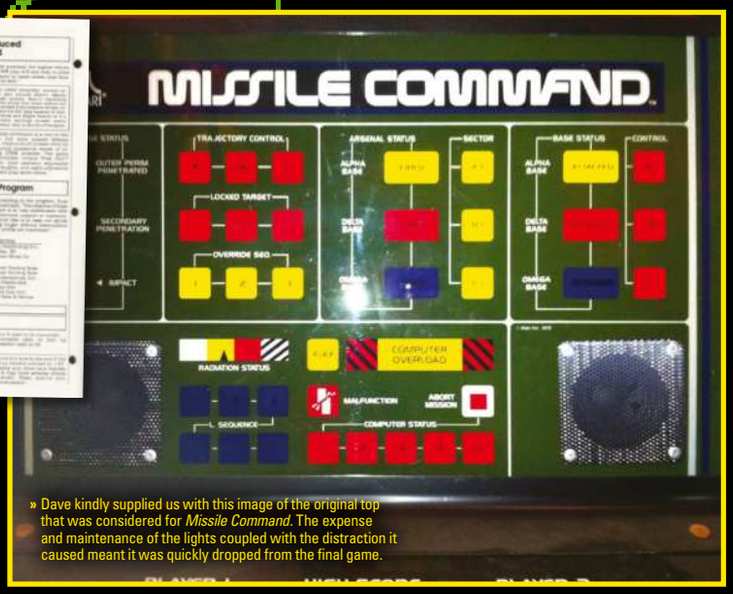
In addition to numerous gameplay changes, *Missile Command* presented plenty of technical challenges for the developers, many of which were being encountered for the very first time. "The entire program had to fit into approximately 12K and it was written in assembly language," recalls Dave. "We also had to come up with lightning-fast methods for drawing lines and circles in real-time so that motion would be smooth, and we were constantly working within the limits of the hardware: the narrow bottom section at the bottom of the screen for land, cities and missile bases had more colours than the rest of the screen."

Rich remembers how the large number of on-screen missiles and smart bombs that the game had to handle also ended up proving to be a problem for the trailblazing pioneers: "Dealing with the new hardware and making sure that it was up and running and good to go was hard enough, but in terms of development, creative and fun factor it was probably those smart bombs." He continues: "It was just their behaviour. I think a lot of what they did was targeted to a specific city, but they avoided and tried to go around and would use colour detect in their near region to decide if they were going to plough into a bomb or an explosion area. In that day and age we were trailblazing, but in today's world they are now trivial problems. Getting them to do the right thing and behave intelligently had less to do with time on screen and more to do with the avoidance of getting blown up."

Despite various kinks, Rich feels that the creation of *Missile Command* remained a fairly organic experience for the most part. "We did the original incoming missiles and that was cool but not enough, and so we added the satellites and the planes and



» [Arcade] The trackball was essential to mastery of *Missile Command*. A joystick would never allow you to deflect speeding incoming missiles on later stages.



» Dave kindly supplied us with this image of the original top that was considered for *Missile Command*. The expense and maintenance of the lights coupled with the distraction it caused meant it was quickly dropped from the final game.

» [Arcade] Dave was keen that *Missile Command* didn't glorify nuclear war, using the end screen to explain that, in such a circumstance, everyone loses.

the things that dropped them. That was more and better but maybe not quite enough, and so we added MIRV missiles, and that was more and better but not quite enough, and then we added smart bombs and that turned out to be enough. And that's really the kind of evolution of how games are created. You take the core of what you're doing, you make that and see if it fits. It was such a simple concept, and the additions that we made were so simple, that it became one of those games were everything kind of fell into place."

With a prototype finished, it was time to put *Missile Command* on its all-important field test. This was a crucial time for any new game, as the amount of coinage that was pulled in would always decide if there was any point in finishing the project. Even before the field test, though, Dave was convinced that they had a hit on their hands: "I'd be asking co-workers to step back from playing the development prototype so I could work on it," he recalls. "That's when we knew that the game would be a winner."

Rich was also pleased with the field test, and, like Dave, he was convinced that they stood a far better chance than other games. "You have to realise that this was one of the first colour games, so it had this gigantic advantage over all its competition," he begins. "I remember some young guy who was probably in the military. He was looking at the game and he had simplified technology into thinking that everything was simply a new chip. He had this unabashed excitement and enthusiasm and was like, 'Oh, man. Look what's in that new chip!' His reaction on test was basically saying: 'Look what technology is bringing to me.'"

> **"Dave Theurer suffered from regular nightmares about nuclear attack for several months"**

After its successful field test, *Missile Command* rolled out into arcades, quickly going on to become a massive success for Atari; although the game's gruelling schedule did leave its mark on Dave, who suffered from regular nightmares about nuclear attack for several months during and after the game's development. Despite those nightmares, Dave remains incredibly proud of his work on the game. "I had a very strong feeling from the very first day when Steve Calfee gave me the assignment to do a missile defence game that the game would be one people would want to play," he admits. "We saw co-workers' excitement with it when they came into the lab to play it during development. We had developers from the Atari VCS system that would drop by – they were in the same building – and play it for hours in our lab. We saw the players' excitement when we put it out on its first field test. We saw great collections in all the field tests. It was a very positive experience from start to finish."

Rich is also pleased with the way the game turned out, citing the power it gave you as one of the reasons for its enduring success. "It's a good feeling to have total control over an incredibly complex machine," he explains. "To have a machine give you that ego gratification of controlling such a complex piece of equipment for a quarter is a hell of a bargain. People crave power and ego is fed by that, so that's what we were selling and, to a degree, what videogames continue to sell."

Special thanks to Dave Theurer and Rich Adam for their precious time, Martin Goldberg for additional advice and pictures, and to Paul Drury for making an eight-year quest finally come to fruition.

Incoming missiles. Abort, abort

MISSILE COMMAND WAS a huge success for Atari, so it should come as no surprise to learn that a sequel was soon in development after the original's runaway success. Having cut his teeth on the original game, it was Rich's turn to shine as the game's creator. Unfortunately for him, the original sequel hit a number of key issues, meaning it never reached the arcades, a pity, as his description of it fills us with excitement at what might have been.

"It was simultaneously two player," he begins about the now long-dead sequel. "We turned the monitor on its side and tried to get a two-player version of the game up and running, where you attacked each other. It was a really challenging concept, but it just wasn't as fun to multitask – at least I couldn't get it to be fun – and try and go over and launch accurate missiles at opponents, while playing defensively against launches from another player.

"I think the main issue with *Missile Command 2* was that the computer launches could be way more efficient and rapid about laying down missile launches, as opposed to humans who had to manipulate the trackball. In that sense it was difficult, and people were so satisfied with the way that the mechanic of *Missile Command* worked that it just didn't do much. I never solved the design for using two players simultaneously, and I just could not make it fun. The screen real estate was another issue, as you actually had a smaller, narrower area to defend. That was my game and we eventually killed it because it just didn't earn. When you started a project you knew that there was a 50 per cent chance that it was never going to get to production. It was a really competitive environment, though, and I wanted to make something really cool. I wanted to have the next big hit game for us."

Sadly, with *Missile Command 2*, it just wasn't to be.

A Prince Among

Jordan Mechner was 21 when he created Prince Of Persia. Now, over 30 years after the original side-scrolling classic ,**David Crookes** talks to the man who created a prince

Jordan Mechner was once hailed as the king of the platform game. Having created *Prince Of Persia* in 1989, he was bestowed with this most fitting of crowns almost immediately as players fell to their knees in deference to the fluid movement of the main character and doffed their caps to level design that was sometimes frustrating but always fun.

And today? Mechner looks back on a franchise that has stood him well for more than 20 years, and he is happy. Happy that people have taken this most royal of games to their hearts and ecstatic that he has realised a boyhood dream. And yet it could have been so different. After Mechner had created the first game for the Apple II computer, and after he had seen it ported to almost every machine under the sun, he considered abandoning gaming and following his heart as a filmmaker.

The lure of gaming – and the difficulty in forging a career in the movies – ensured that he continued to produce games, and he had a strong leading role in not just the sequel but the first game of the much-applauded last-generation reboot. That, however, has led him to his personal holy grail, for it is now that he is treading the red carpet, his screenplay for the film version of *Prince Of Persia* having been accepted by Hollywood producer Jerry Bruckheimer. The film was given a release date of 28 May 2010, and Mechner's feet have barely touched the ground since. Hell, it has even given him the chance to take his graphic novels based on the franchise straight into the mainstream.

"I love writing movies, I love making games and writing graphic novels," he tells us. "I'd hate to have to choose among them, and I'm really happy and grateful that *Prince Of Persia* has given me the chance to have a role in creating all three."

But let us go back in time to the moments before Mechner began programming the very first *Prince Of Persia* game. He had spent time producing an action romp called *Karateka* while studying at Yale University. It was 1984 and the young up-and-coming New York programmer had experimented with rotoscoping, an animation technique that involves animators tracing over live-action film movement frame-by-frame.

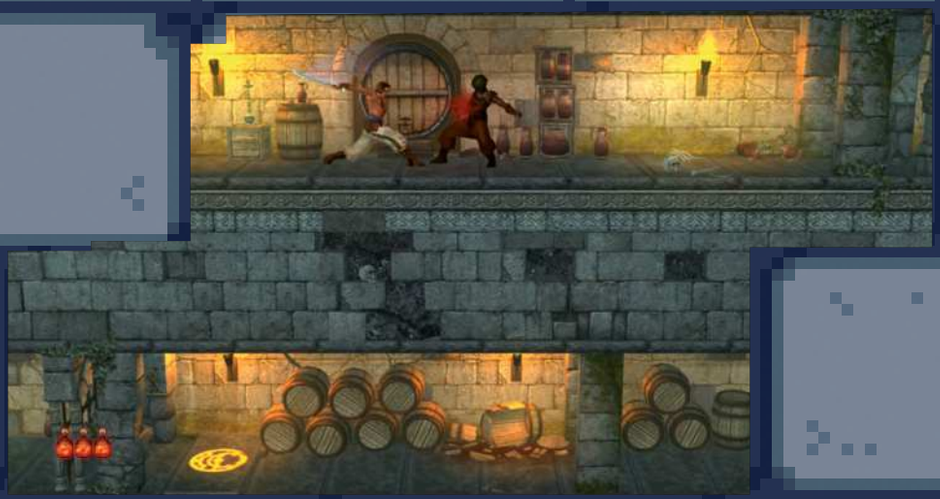
The end result was a revolutionary platform beat-'em-up that had a story with fast-paced cut-scenes, smooth scrolling backgrounds and, thanks to Mechner's rotoscoping work, animation more fluid than much of what was out there at the time.

"I enjoyed producing *Karateka*," says Mechner. "I wanted to make this kind of karate fighting game at the time, but once I had finished it and saw it had done well, I wanted to push myself." It was then that he decided to pursue something a little different. "My idea with *Prince Of Persia* was to take the game's fluid action and presentation and combine it with a puzzle-solving game that was more along the lines of *Road Runner* and *The Castles Of Dr Creep*, both of which I was enjoying a lot at the time," he says. "So that was really the primary inspiration for *Prince Of Persia* – that and the fact that I loved movies."

Mechner had been given his Apple II computer at the age of 15 and he spent much of his earlier days with the machine playing around with animation. He developed a fascination with recreating human movement – he used his brother, David, as a model and had him jumping, squatting and running, taking footage that he later used to capture the nuances of human agility – and he was also a major fan of action. It was to the now-classic high-tempo blockbuster movies of the Eighties that he flocked as a teenager – the likes of *Indiana Jones* and numerous Spielberg specials.

"I loved the first ten minutes of *Raiders Of The Lost Ark*," he states, with an enthusiastic tone he retains despite the passing of time. "That kind of running, jumping action where you feel like the hero is in great danger and escapes by the skin of his teeth was what I wanted to recreate. I wanted to bring

Games



» [360] The 1989 original *Prince Of Persia* was remade by Gameloft and published by Ubisoft for Xbox Live Arcade. It featured the same level design, swordplay, puzzle-solving and storyline, but it had new character designs, animations, visuals and lighting effects. New traps, puzzles and enemies were also added.

» [Xbox] Combat was heavier than ever in the revival, with the Prince called on to dispatch numerous foes at once.

FROM THE retro GAMER ARCHIVES

Gameography of Prince Of Persia

1989 Prince Of Persia (Apple II, DOS, NES, SNES, Game Boy, Game Boy Color, Mac OS, Amstrad CPC, Amiga, Atari ST, PC Engine, Mega-CD, Mega Drive, SAM Coupé)

1994 Prince Of Persia 2: The Shadow And The Flame (DOS, SNES, Mac OS)

1999 Prince Of Persia 3D (Windows, Dreamcast)

2000 Prince Of Persia: Harem Adventures (Mobile)

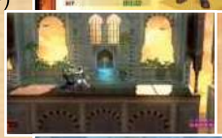
2003 Prince Of Persia: The Sands Of Time (PS2, Xbox, Windows, GameCube, Mobile)

2004 Prince Of Persia: Warrior Within (PS2, Xbox, Windows, GameCube, Mobile)

2005 Prince Of Persia: The Two Thrones (PS2, Xbox, Windows, GameCube, Mac OS X)

2005 Prince Of Persia: Revelations (PSP)

2005 Battles Of Prince Of Persia (DS)



2007 Prince Of Persia Classic (PSN, XBLA, Wii)

2007 Prince Of Persia: Rival Swords (PSP, Wii)

2008 Prince Of Persia (PS3, Xbox 360, Windows, Mac OS X, Mobile)

2008 Prince Of Persia: The Fallen King (DS)

2010 Prince Of Persia: The Forgotten Sands (PS3, PSP, Xbox 360, Windows, Wii, DS)

that kind of excitement to gaming, to the Apple II platform. It was a machine I was really getting to grips with and it was the most natural thing for me – as an amateur animator, film fan and gamer – to try to do."

Prince Of Persia did, indeed, foster a feeling that a wrong step or a mistimed button press in a jostle of swords against increasingly mean guards would lead to a time-sapping death, a fate that would not so much put you out of the game but eat away at the 60 minutes you had to complete it. In some ways, it was as much about the save-game feature as it was the endurance and hair-tearing that accompanied each play, but the concept of time was firmly cemented, and it was one that would endure right up to the present film and loose game tie-in.

"I think what surprised so many – aside from the game itself – was the fact that the Apple II at the time was a really old platform," Mechner confides. "By the time I'd finished *Prince Of Persia* in 1989, the computer was actually more than ten years old. I felt at the time – and I certainly still feel this now – that the first *Prince Of Persia* definitely moved up and even surpassed the hopes that I'd had for the game in the beginning, when I first conceived of it in 1985. But at the same time I was really starting to see other games and other platforms that could go beyond it, technically, in terms of what it was capable of, so in that sense I felt like I was kind of trying to keep up with the market that was evolving even as I was programming the game."

The debut *Prince Of Persia* was a complete success. It was ported to dozens of machines, appearing on consoles as diverse as Nintendo's NES and Game Boy and Sega's Master System and Mega Drive. The game, which sold 2 million copies, had an uncanny knack for making 8-bit machines appear on a par with more advanced computers. The only astonishment was that it took five years for a sequel to appear.

Where *Karateka* and the debut *POP* represented a massive leap in gameplay for the young Mechner, *Prince Of Persia 2: The Shadow And The Flame* was essentially more of the same, albeit

with a greater incidence of sword-tangling, to the point where it was not uncommon to do battle with four foes. Taking place 11 days after the end of the original, it was an altogether more difficult romp, with shinier graphics and a larger area to explore. The game was also keen on plot: the Prince's dream of marrying the Princess is seemingly thrown into disarray when evil Jaffar has him banished from the palace, his escape ship is blasted by a bolt from the sky, and he ends up on a land far away from Persia, determined to get back and sort his single-dom out once more. Life, as you could imagine, was pretty rubbish for him.

And yet if the game showed anything, it was Mechner's penchant for story. So why the increase in combat? "Interesting…" the programmer ponders. "Well, I wouldn't say I regret putting more combat in the game, because when I look back to the debut, I had remade the levels so many times over a period of three years and for the second game I wanted a much more conventional, sort of planned development. Part of that was a desire to make it more combat-heavy, in some sense."

The plan for the second game was rubber-stamped in September 1991. Mechner expressed

» [DS] There have been many versions of *Prince Of Persia*, among them *Battles Of Prince Of Persia* on the Nintendo DS, which took place between *Sands Of Time* and *Warrior Within*. It was a turn-based tactics game that had a mixed reception from fans. The game revolved around playing cards and worked better as a multiplayer offering.

his relief that the series would continue, as he had feared that the publisher, Brøderbund, did not want a follow-up. Two of the company's decision-makers, John Baker and Michelle Bushneff, were said to have felt that the project was growing out of control, but following a set of meetings it soon transpired that they really wanted the *Prince Of Persia* genius to be more specific about his direction for the game and the exact requirements of the team that he was about to head.

It was not possible for Mechner to work alone this time; the gaming industry had matured and the bar of expectation was higher. So whereas Mechner created the original title largely without help, the sequel was being afforded a team. Storyboards were needed, graphics had to be specified, and Mechner was the head honcho. He was in his element. "Everyone is deferring to me the way a film crew defers to the director," he wrote in his diary at the time. "Somehow, I've acquired that magic quality: credibility."

Despite his huge success, he admits that he was feeling the pressure. He didn't want the project to fail, as much for his own sake as for the game itself. "If they ever start to doubt me, it could become a nightmare," he wrote. There was a sense that he was riding the crest of a wave, acting out his Hollywood dream in pixellated form and yet deeply foreboding that his crown could be sent flying and he be deposed. From king to prince to pauper…

» [CPC] "Marry Jaffar… or die within the hour." A bit of a no-brainer really. But the Prince is ready to come to the Princess's aid.

"Yeah, I had a team – a group of artists and programmers," he tells us. "I sort of directed the game remotely. I was living in Paris at the time, making a short film, and I wasn't there 12 hours a day for the development. I think it was a luxury that I had on the first game that maybe enabled that, and with that debut title I really got to tweak the balance over a long period of time. With the second game, though, I pretty much made a couple of drafts of each level and that was it. I had to stick to the schedule."

At the same time as developing the second game, Mechner had to oversee the long-overdue Apple Mac version of the original. It was due in October 1991 but pressure meant that it had slipped again and was looking at a release in early 1992. Work was also progressing on other ports, and it was giving Mechner a chance to oversee fresh approaches, such as better graphics or more levels – the SNES version had 20 levels rather than 13 and the time limit was subsequently doubled. Was it a case of producing a director's cut?

"Well, when I saw the SNES version by Konami I was blown away," says Mechner. "I wasn't the programmer so for me it was like playing the game as a newcomer and I was experiencing my game in the way a gamer did a few years before. I didn't know what was coming and what was going to happen next and it was a lovely feeling. But it also helped spur me on even more to make the sequel special – technical limitations of the first game were severe because the whole game had to fit into 64k of memory. On the Apple II, even just in a few years, in between starting to program the first *Prince Of Persia* in 1986 and the time it released in 1989, the machines were capable of so much more in terms of graphics and sound. I think seeing the release of enhancements – and certainly my eagerness for a full-on sequel – was partly down to the attraction of just being able to have a little bit more freedom, you know, in terms of different types of backgrounds and playing music simultaneously with the game, whereas on the Apple we had to actually freeze the animation to play a couple of notes of music. We had both at the same time."

The infrequent face-to-face communication between Mechner and his team meant, for the first three months, that his art team had been working without even setting eyes on him. He was directing from afar – perhaps not what he would have wanted, but film was still turning his head. Although Mechner had been buoyant the previous September, by January doubts remained and the publisher was threatening to slash the budget. It was into this atmosphere of uncertainly that Mechner walked, and yet there was a sense that *Prince Of Persia 2* was still the project that most artists wanted to work on. The lure of producing realistic animation was a head-turner, and Mechner indulged his art team with a screening of the 1940 film *Thief Of Baghdad* to get them in the mood.

The Prince Of Celluloid

Jordan Mechner reveals his thoughts on the film he pitched, wrote and helped develop

"It was around 2004 and I had the idea to pitch *Prince Of Persia* as a film. With *Sands Of Time*, I felt that it was a second chance to really push the franchise. If there was one thing I hadn't done in the Nineties, it was make the most of the game, so I got together a trailer, using footage from the *Sands Of Time* game, and I showed it to Jerry Bruckheimer.

"I also pitched the story of the movie, which I wanted to be different from the game. I kept elements from *Sands Of Time* but I reconfigured it as a story that was intended to be watched rather than played. I think the trailer helped a lot to show what kind of movie it was going to be.

"For me, I think with games and movies there's such a different approach. So what I did was go back to what had been the source of inspiration for *Prince Of Persia*, and that was a particular kind of swashbuckling action of which *Raiders Of The Lost Ark* was an example. I was also inspired by *Robin Hood*, and I tried to make a movie in that genre.

"I think the *Sands Of Time* story really lends itself well to a film, and I think it's really good for that kind of big, spectacular summer movie. What I will say is that the powers of the dagger are really specifically structured to serve the game. For example, the fact that everyone in the world has turned into monsters, except for the hero and the villain, and they then build a dagger by fighting these monsters. That's an element of mythology that supports the gameplay. In the movie, that doesn't really make sense, so I limited the powers of the dagger. You'll have to see it – it's really cool."

» Released in 2010, *Prince of Persia: The Sands of Time* starred Jake Gyllenhaal, Ben Kingsley and Gemma Arterton.

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» [360] One of the problems people had with the 2008 reboot was Elika's helping hand. She would reach out and grab the Prince whenever he found himself in trouble, making the game easier.

That, however, wasn't the main issue. He had to persuade Baker that it was a game worth the immense investment. And in his approach, Mechner proved to be a master director, using the trick of ensuring that the boss felt a sense of involvement in the project. Before long, he had thrown the company's resources behind the game, even though he was still nervous of the cost. Indeed, it was the most expensive game in Brøderbund's history. And yet the desire for film was still with him. "I know what I want to do with my life," he writes. "Why not just do it?"

The hands-off approach to *Prince Of Persia 2* did get to him. He loved being able to step in and help with a crisis such as making heavy graphics cuts. And neither did he regret having to scale back the game's ambition. "Sometimes I feel a game that is very polished and has had a lot of cash spent on it can appear a little too sanitised," he says. And it was around this time that he began to see the real attraction of producing a game, which he says was "more fun that 16mm student filmmaking". As the game neared completion, Mechner was nevertheless becoming jaded, caring little for details that would, at any other time, be an excitement. One of those was the name. He cared little whether the tag would be *The Shadow And The Flame, City Of The Dead* or *City Of Souls*. But was he pleased with the game, looking back?

"I was in a lot of ways, but it wasn't quite the close… you know, the intimate involvement that I had on the first game, just because I was geographically apart and personally there was a little bit more distance," he says. "I wasn't living and breathing it every day in the way I was with the first game."

Mechner wrestled intensely with his inner self during this period. It was clear to him that, while enjoying the creation of games, his life's dreams were not being fulfilled. He had yearned for a girlfriend, felt the urge to see the world, and that desire for a movie would never leave him. It is why, for his next project, he produced *The Last Express*.

In 1993 Mechner set up Smoking Car Productions primarily to design his new game, which was set on the Orient Express in 1914. Players were pitted in the role of US doctor Robert Cath, framed for the murder of an Irish police officer, and the Agatha Christie-style yarn was notable for being entirely played in real-time.

And time is what Mechner was feeling like he had precious little of and so, when he finished the production of the game, his interest in film was piqued once more. It didn't help that *The Last Express* was a failure commercially – despite being a success critically – due to the Brøderbund marketing department quitting weeks before its release in 1997. So when Red Orb Entertainment started to produce the third game in the *Prince Of Persia* series at that time, Mechner was underwhelmed. With the gaming public by now used to seeing games in the third dimension, a decision was made to make the third *POP* a 3D masterpiece. The idea was for The Learning Company to publish the game and that it would be created for the PC. It made its debut in 1999.

The difficulties – some financial – that so marred the release of *The Last Express*, however, caught *Prince Of Persia 3D* as well and, as a consequence, it was released without having been through any

Athlete Kings

The Prince isn't the only gaming character known for his athleticism

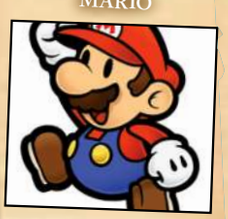
PRINCE OF PERSIA

Agility	17/20
Strength	17/20
Stamina	18/20
Fighting	17/20
Good looks	18/20
Overall	**87/100**

STRIDER

Agility	19/20
Strength	18/20
Stamina	17/20
Fighting	18/20
Good looks	18/20
Overall	**90/100**

MARIO



Agility	17/20
Strength	17/20
Stamina	17/20
Fighting	16/20
Good looks	10/20
Overall	**77/100**

SONIC THE HEDGEHOG

Agility	14/20
Strength	17/20
Stamina	15/20
Fighting	14/20
Good looks	17/20
Overall	**77/100**

TWINSEN

Agility	15/20
Strength	16/20
Stamina	18/20
Fighting	14/20
Good looks	5/20
Overall	**68/100**

EARTHWORM JIM

Agility	17/20
Strength	18/20
Stamina	18/20
Fighting	16/20
Good looks	1/20
Overall	**70/100**

Games inspired by a prince

Flashback

- **Developer:** Delphine Software
- **Publisher:** US Gold
- **Platforms:** Amiga, Acorn Archimedes, Mega Drive, DOS, SNES, 3DO, Atari Jaguar, CD-i,
- **Year:** 1992

Both *Flashback* and *Prince Of Persia* made use of the rotoscoping technique, but they were developed independently of each other. The style of the two games is very similar, and with *Flashback* coming after *Prince Of Persia*, it will undoubtedly have drawn inspiration from Mechner's game.

Blackthorne

- **Developer:** Blizzard Entertainment
- **Publisher:** Interplay
- **Platforms:** SNES, DOS, Sega 32X, Mac, GBA
- **Year:** 1994

Blackthorne was less reliant on platforming and concentrated more on puzzles and combat, but the inspiration was clear. The character had the Prince's abilities and weaoesses, and the play involved elements of trial and error. One problem is that fighting could be repetitive, which wasn't the case in *Prince Of Persia*.

Tomb Raider

- **Developer:** Core Design
- **Publisher:** Eidos Interactive
- **Platforms:** Sega Saturn, PlayStation, PC, Macintosh, Windows Mobile, N-Gage, PSN
- **Year:** 1995

With its mix of running, jumping and platforming, the inspiration for *Tomb Raider* is clear. Lara Croft is essentially a female Indiana Jones, the character who inspired Mechner to create *Prince Of Persia*. The tricky puzzles of *POP* were, in essence, transported over to a lush 3D world.

Oddworld: Abe's Oddysee

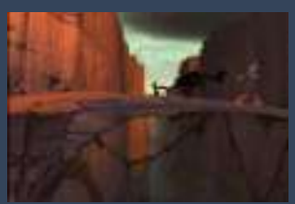
- **Developer:** Oddworld Inhabitants
- **Publisher:** GT Interactive
- **Platforms:** PlayStation, PC, Windows, Game Boy, PSN
- **Year:** 1997

Athough creator of the still-unfinished *Oddworld* saga Lorne Lanning says the game was more inspired by *Another World*, the 2D PlayStation platform game *Oddworld* was very similar to *Prince Of Persia* in layout and playability. You even hoisted up platforms, *Prince Of Persia*-style – until a marauding Slig shot you down.

Heart Of Darkness

- **Developer:** Amazing Studio
- **Publisher:** Interplay
- **Platforms:** PlayStation, PC
- **Year:** 1998

What *Prince Of Persia* did was create a sub-genre of 2D platform games, which was continued by the likes of *Heart Of Darώess*. This 2D side-scroller had similar gameplay, with the main character walking, jumping, climbing and crawling through levels, attacking any enemies that he came across. This game helped keep the sub-genre alive.



Assassin's Creed

- **Developer:** Ubisoft Montreal
- **Publisher:** Ubisoft
- **Platforms:** PS3, Xbox 360, PC
- **Year:** 2007

The mobile game by Gameloft was incredibly similar to the debut *Prince Of Persia* game, albeit with more features. Indeed, Gameloft has been inspired by *Prince Of Persia* with other titles too. But *Assassin's Creed* on consoles was inspired by the second *POP* trilogy, beginning with *The Sands Of Time*, all of which may not have existed without Mechner's original.

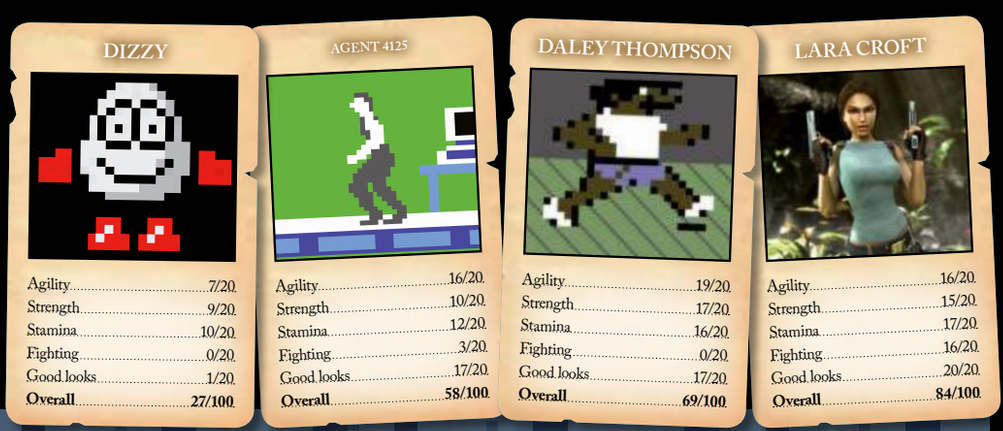
substantial quality assurance. The bugs were there to see and the reviews were scathing, although some did see the good points.

The third game followed the same side-scrolling premise of the previous titles and it had a similar story. There were guards, traps and ledges, and the only real difference between the 3D version and the previous two was that third dimension. To Red Orb's credit, it managed to effectively translate the gameplay of Mechner's first two efforts to a 3D world, and the level design was actually solid. Commentators praised the pace of the game and felt the graphics – aside from the characters – did the levels justice. That was ironic given that the hallmark of the first two games was the fluid nature of the Prince. GameSpot's Ron Dulin quipped: "The motion-captured animation looks great, except when the Prince runs up stairs or ramps, at which point he looks like an old man who just doesn't have it in him any more. Then again, it's been ten years since he first took to adventuring, so perhaps we should give him a break."

Reviewers pulled the controls apart. They were unresponsive – unforgivably so at times. And the camera perspective was poor, fixed behind the Prince and obstructing the view of obstacles. It also made combat difficult. There was more criticism too: many didn't like the voice-acting, believing it to be lacking authenticity. In finally giving the Prince a voice, it seems most wanted to go back in time to the period when he was mute. Above all, Mechner was not involved in the project except in a consultancy role. He had been to film school and had shot the short documentary *Waiting For Dark*, which looked at the terrible living conditions in Havana in Cuba, and that is where his ambitions appeared to be heading.

"The third game was a development that Brøderbund decided to do internally," says Mechner. "At that point, I was already more into films. I'd just done *The Last Express*, which was a different kind of game, and basically *Prince Of Persia 3D* wasn't a project that I spearheaded. Film was where I was at."

Mechner did, however, play the game, although he admits to not getting past the second level. But commercially it was a success, actually going gold. Not that Mechner was all that enamoured by it. He instead spent time in the late Nineties and turn of the century producing another documentary, *Chavez Ravine*, which looked at how a Mexican-American village was bulldozed to make way for the Dodger Stadium in Los Angeles.



A to Z of Prince of Persia

A is for Alter Egos. Throughout the series, the Prince bumps into alternate forms of himself, from the Shadow in the original and sequel to the Sand Wraith in *Warrior Within* and the Dark Prince in *The Two Thrones*.

B is for Brøderbund. The first two games of the series were published by Brøderbund, before the company's acquisition by The Learning Company. Its collapse and subsequent rush to get the game out was behind the lack of polish on *Prince Of Persia 3D*.

C is for Combat. There is much swordplay to be had throughout the games of the *Prince Of Persia* series. Jordan Mechner watched Errol Flynn movies in order to perfect the technique on screen.

D is for Dagger. The Dagger of Time allows the Prince to manipulate time itself by harnessing the power of the Sands of Time.

E is for Exploration. One of the main aspects of the *Prince Of Persia* games is to explore the world around you. This increased in importance as the series and its underlying technology progressed.

F is for Film. Directed by Mike Newell, produced by Jerry Bruckheimer, starring Jake Gyllenhaal and written by *Prince Of Persia* creator Jordan Mechner, the movie is a summer 2010 blockbuster.

G is for Graphic Novel. Not content with the games and films, Jordan Mechner has also produced a series of *Prince Of Persia* graphic novels.

H is for Hourglass. From the first game in which you had 60 minutes to rescue the Princess, this basic symbol of time has been ever-present in the series.

I is for Indiana Jones. Right from the start, the Prince was influenced by the iconic Dr Jones – the first ten minutes of *Raiders Of The Lost Ark* in particular – with the emphasis being on action and exploration.

J is for Jordan. The entire *Prince Of Persia* premise was thought up by wannabe filmmaker and games programmer Jordan Mechner in the late Eighties, when he was 21.

K is for *Karateka*. It may not have been part of the *POP* world, but this martial arts game was the title that paved the way for the entire *Prince Of Persia* franchise.

L is for Love. The Prince's infatuation with the Princess, who was all too easily locked up, was the driving force behind our hero's actions.

M is for Magic Potions. There are many ways to die in the older *Prince Of Persia* games, so being able to quaff a heath-rejuvenating magical smoothie was like a gift from the gods.

N is for No Name. In the games, the Prince is known simply as 'Prince', but that has changed in the movie, with our hero given the moniker Dastan.

» [Xbox] *The Two Thrones* took a step backwards from the aesthetic change of *Warrior Within*.

Prince Of Persia 3D remains, to some extent, an embarrassment for him.

"I knew the team and I sort of saw what they were doing, and their initial plan sounded exciting," he says, diplomatically. "They had high hopes for the game and so I hoped that it would work out, too. But it was a very difficult development – they had a lot of setbacks. My impression was that I don't think the game really fulfilled the criteria that the team had for it. For myself, I only got up to the second level when I played it. I'm sorry to say that was partly because of a technical problem. The PC that I had at the time just wasn't powerful enough to keep up and the game had certain technical problems, which stopped me from playing it. I meant to get back and play the rest of it but I never did."

Mechner's lack of proper involvement in the third game has meant that he has tried to erase it from the storyline. For him, the game has become an irritation of sorts and one that he is keen to erase. "I don't really see that as part of the *Prince Of Persia* collection," he says. "It was a bit of a one-off. Overall, for me, the inspiration of the Prince was always kind of Errol Flynn, Douglas Fairbanks, or Indiana Jones in *Raiders Of The Lost Ark*. He was just a type of action hero who got his personality from the turmoil that he went through. It wasn't a dialogue or facial expressions. It was very much that he expressed his personality through movement and when I look back, the third game didn't really work."

Up until this point, Mechner, in his desire to break away from gaming and try new things, failed to see what he actually had. He confesses that he needed to recharge his batteries by trying new things, but it meant he lost sight of the franchise he had built. In 2001, however, he received a call from Ubisoft, whose president wanted to discuss the possibility of recreating the game for a new generation. Mechner wasn't sure. He had felt uneasy about *Prince Of Persia 3D* and, if he agreed at all, he wanted to create something amazing. Without that guarantee, he was wary of agreeing to anything, but he did fly to Paris and discuss the possibilities.

"I received a personal call from Yves Guillemot [Ubisoft's president]," he recalls. "Ubisoft had just acquired the rights for the name from Brøderbund and I think one of the motivations was this opportunity to bring it back. But I still had the intellectual property rights. It's fair to say at that time the game was a classic, but nothing was being done with it. I'd seen *Rayman*, which I thought was an absolutely brilliant game, and I thought the *Prince Of Persia* game could be done for a new generation of consoles, you know?"

Mechner gave the project the green light but on the provision that a great team would be assembled. A squad was put together in Montreal and the producer joined Mechner at E3 in LA to discuss the project further. "It was strange for me to go back to the project," says Mechner. "A lot had happened from the time I had put the second game together. I went from *The Last Express*, a three-year project that involved forming a team, starting a company, and something that was really a labour of love for all concerned. And I think also at that time the games market had changed so that the side-scrollers had given way to games like *Tomb Raider*.

Stories through time

Braid

- **Publisher:** Microsoft Game Studios
- **Developer:** Jonathan Blow
- **Platforms:** Xbox 360, Windows, PS3, Mac OS X
- **Year:** 2008

Jonathan Blow's 2008 XBLA game is, like *Prince Of Persia*, about a man searching for a kidnapped princess. But while the story is centred on personal discovery and insight, it gives players the ability to manipulate time. You can rewind to points before death or use time to solve puzzles. It's a great, retro-looking 2D platformer.

Shadow Of Memories

- **Publisher:** Konami
- **Developer:** In-house
- **Platforms:** PS2, Windows, Xbox, PSP
- **Year:** 2001

This 2001 cult classic PS2 title put you in the shoes of Eike Kusch, a man who died at the start of the game. After his spirit gains the ability to travel through time, he goes back and forth to 2001, 1980, 1902 and 1580, looking for a way to prevent his own death in the present day.

The Chaos Engine

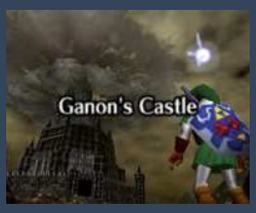
- **Publisher:** Renegade Software
- **Developer:** Bitmap Brothers
- **Platforms:** Amiga, Atari ST, Amiga CD32, DOS, Risc OS, Mega Drive, SNES
- **Year:** 1993

Released in 1993 and created by The Bitmap Brothers, *The Chaos Engine* saw the technology of a stranded time-traveller fall into the hands of an inventor, who then produces an alternate timeline and a machine that can fiddle with matter, space and time, resurrecting all sorts of ghastly beasts.

The Legend Of Zelda: Ocarina Of Time

- **Publisher:** Nintendo
- **Developer:** In-house
- **Platform:** Nintendo 64
- **Year:** 1998

Using the Master Sword in this 1998 Nintendo game, you can travel between two time periods, but there are also many opportunities to teleport to previously visited locations in a game that, by the nature of its title, suggests that you can use time and space as your ultimate playground in this amazing, classic adventure.



Time Zone

- **Publisher:** On-Line Systems
- **Developer:** Roberta Williams
- **Platforms:** Apple II
- **Year:** 1982

Written by Roberta Williams for the Apple II, *Time Zone* let you travel through time and solve puzzles. Input was via text but you were still thrilled to 'meet' some of history's most celebrated figures from Julius Caesar to Cleopatra. If Roberta could go back in time, maybe she wouldn't have sold the game for a whopping $99.

O is for Okay. Mechner confesses that he was just an "okay" programmer and says that he was glad when the industry moved on to allow him to concentrate on plot and character development.

P is for Portable – and Prince, of course. But as well as being a hot computer and console title, games have also appeared on the likes of the Game Boy, Nintendo DS and PSP.

Q is for Quality. Jordan Mechner didn't have the appetite for the 2003 reboot and insisted that it could only go ahead if the quality bar was at its highest. The game and its success reignited his passion.

R is for Rotoscoping. The first *Prince Of Persia* game amazed players with the fluidity of the main character, producing using the animation technique of rotoscoping, based on tracing footage of live-action movement.

S is for Sand. As in *Sands Of Time*. All good franchises get a reboot and so Ubisoft's *Sands Of Time* emerged in 2003 to revitalise the series.

T is for Traps. No *Prince Of Persia* game is complete without traps. Whether it be spikes, perilous gaps, circular saws, giant jaws or a horizontal blade, our Prince would wince at the mere thought.

U is for Unlock. If you have a copy of *The Sands Of Time* to hand, you can unlock the original *Prince Of Persia* game and play. On the Xbox version, you can also blast through *Prince Of Persia 2*.

V is for Vizier. The Prince is never too far away from being antagonised by an evil and persistent Vizier, usually trying to sweep the love of his life away from him and use his powers to turn the world against our hero.

W is for World Records. *Guinness World Records* says that *Prince Of Persia* was the first game to include motion-captured animation, and it was the highest rated platformer on the PS2 and Xbox.

X is for XBLA. Ubisoft remade the original *Prince Of Persia* game in 2007 with better graphics and a few gameplay tweaks. Play it on Xbox Live Arcade or PlayStation Network.

Y is for Yes. When Chris White almost single-handedly converted *Prince Of Persia* to the SAM Coupé in 1992, not telling anybody that he was doing it until it was almost done, it was granted a release by an impressed Domark.

Z is for Zillions. Well, okay, millions. The original *Prince Of Persia* sold 2 million copies worldwide.

But the more I heard, the more I felt it was right to bring it back and do it differently."

Prince Of Persia: The Sands Of Time was released in 2003 for the PlayStation 2, Xbox, GameCube and PC. The main character displayed incredible fluidity and it was set in a sun-bathed mystical 3D Middle East. The action revolved around the Dagger of Time, which the Prince steals in order to gift to his father, but an evil vizier gets him to unlock it, an hourglass is unleashed, and chaos reigns.

There was no doubting that the Prince was back, and he was looking better than ever. Death-defying leaps and a control system that was forgiving made for a slick, high-energy action game that had gamers in awe. The linear gameplay led the Prince down a particular path yet it distracted little, mainly because the gamer was more interested in the gravity-defying stunts.

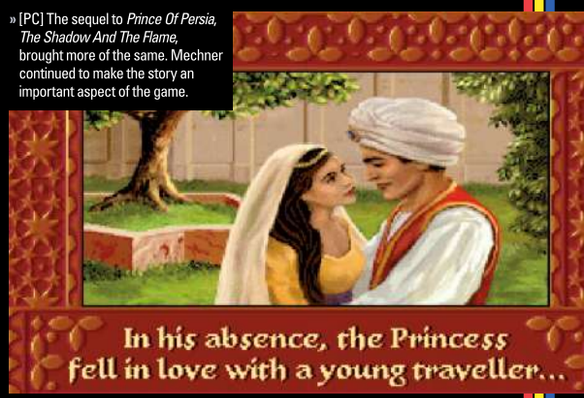
The game also celebrated its roots, with the original *Prince Of Persia* included on the disc. "I loved *Sands Of Time*," says Mechner. "I felt it was very true to the original, while at the same time being a game that could stand on its own merits."

A year later and Mechner's thoughts turned once more to film. He started to write a screenplay and put together clips from the game to illustrate how it would come together. This was later pitched to Hollywood producer Jerry Bruckheimer, who snapped up the movie rights and pushed the project forward. For Mechner it was the final realisation of a dream – the movie he so wanted all his life. And it was made possible through his perseverance with gaming, a medium that he had grown to love immensely.

"I worked very closely with Ubisoft on *Sands Of Time*. I was moved to Montreal for the last part of the development and I worked as a game designer and writer, so I was very deeply and creatively involved in it. But after the game was released, I moved to LA to start pitching the game as a movie project. It meant I wasn't really that involved with the second game in the series, *Warrior Within*."

» [360] *The Forgotten Sands* returns to the *Sands Of Time* trilogy and has so far been received positively.

» [PC] The sequel to *Prince Of Persia, The Shadow And The Flame,* brought more of the same. Mechner continued to make the story an important aspect of the game.



Warrior Within was released in 2004, and it was followed by the third game in the second trilogy, *The Two Thrones*, which debuted in 2005. Mechner was, by now, fully immersed in his film project. "I think as the second trilogy progressed, the games became a lot darker, certainly with *Warrior Within*," he says. "I felt like *The Two Thrones* was sort of a step back and halfway between *Sands Of Time* and *Warrior Within* in terms of tone."

Both sequels were massively popular, building on the success of *Sands Of Time*. Some felt that *Warrior Within* lost some of the charm of the first game, but the title had longer playing time and the combat was less repetitive. The story picked up from the end of *Sands Of Time*, and the time-travelling element was at the forefront – the backtracking and flips forward adding hours.

The Two Thrones wrapped things up neatly and the latest game, *The Forgotten Sands*, returns to the original trilogy and sits in between *Sands Of Time* and *Warrior Within*, where there was a seven-year gap in the plot. Time has been the hallmark not just of the series, but Mechner's life too.

And yet that is not everything. In 2008, Ubisoft released a reboot, which has now seemingly been abandoned. Called, simply, *Prince Of Persia*, it was deemed too simplistic by some gamers and yet was also a great success. "I thought it was quite beautiful in some ways," says Mechner. He then pauses and reflects. "I will say that *Prince Of Persia* is the project that I've been most deeply involved with, as a writer and creator. When I look at the series as a whole, there's a sense of awe. If I could have had a Dagger of Time back in 1985 when I started making the first game, if I'd seen that all this stuff was coming, I would have been amazed because it's more than I could have dreamed of."

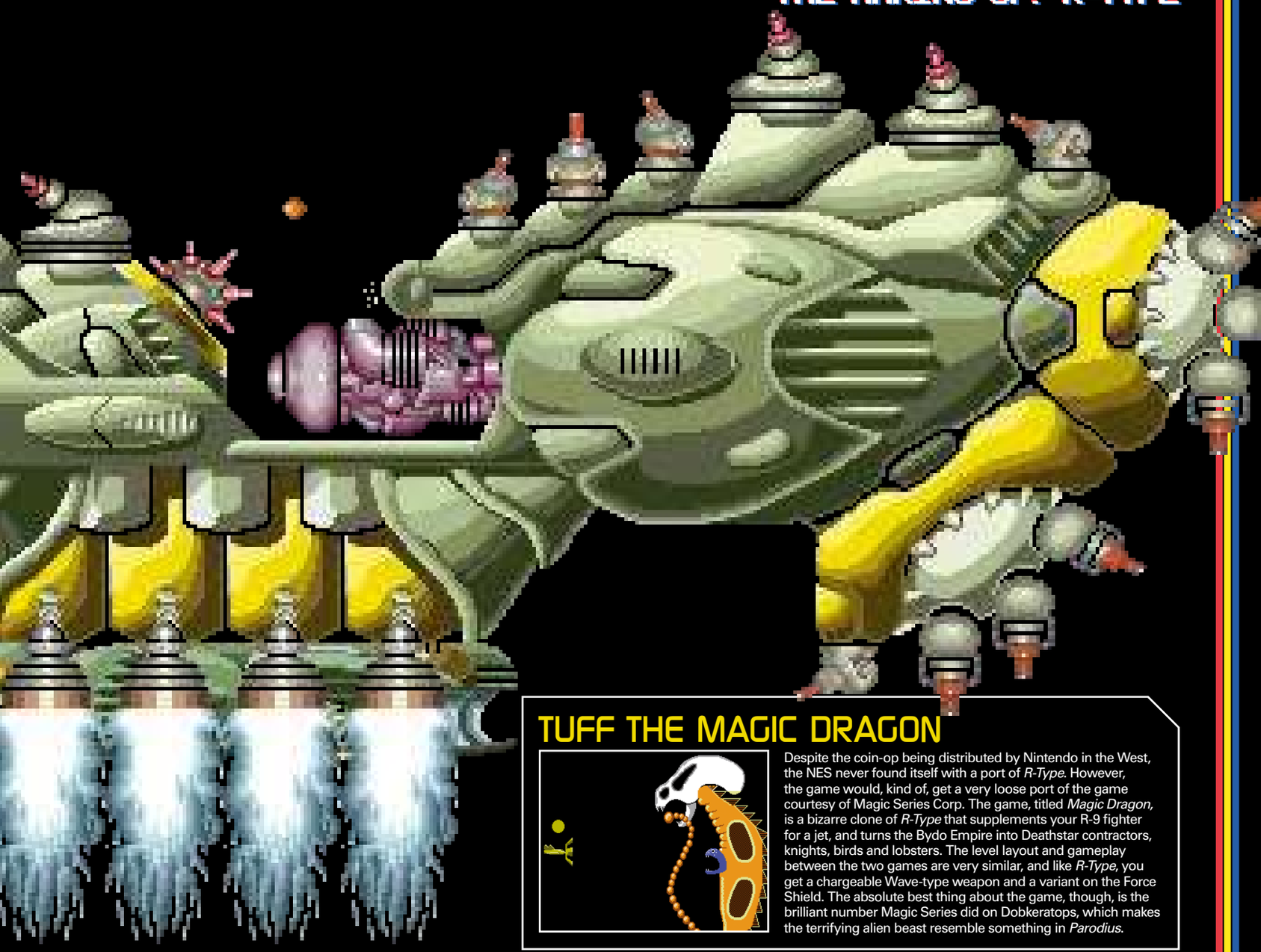
THE MAKING OF...

R·TYPE

WHILE IT CERTAINLY WASN'T THE FIRST SIDE-SCROLLING SHOOT-'EM-UP, IT REMAINS ONE OF THE MOST INFLUENTIAL, POPULAR AND POLISHED EXAMPLES THE WORLD HAS SEEN. STUART HUNT BLASTS OFF AND EXCLUSIVELY SPEAKS TO PRODUCER **KAZUMA KUJO**, OF IREM SOFTWARE ENGINEERING, ABOUT THE CREATION OF ONE OF THE TRUE MILESTONES OF THE VIDEOGAME INDUSTRY

Developed by Irem Software Engineering, and released into arcades in 1987, *R-Type* opened up many people's eyes to what the shoot-'em-up genre and videogames were truly capable of. Built on Irem's M-72 System hardware – the same guts that would bring us the graphical delights of *Mr Heli* and *Ninja Spirit* – *R-Type* was one of the first and most successful games to appear on the kit. It has since gone on to span a fleet of consistently great games, a series that has dipped in and out of numbering its titles – later substituting them with letters of the Greek alphabet (Delta, Leo) – a spin-off game without the *R-Type* name in it at all (*Armed Police Unit Gallop*), and is now setting its sights on a completely new genre with the recent release of *R-Type Tactics* on the PSP.

The first *R-Type* was renowned for its dazzling visuals, taxing difficulty but wildly addictive gameplay. Its eight levels were faultless in design and were littered with iconic ships, imaginative enemies, dazzling looking weaponry and some of the most epic boss encounters ever seen in a videogame. Set in the 22nd Century, *R-Type* charted the war between the allied R-Type fighters and an evil biological threat known as the Bydo Empire. The original game drapes both fractions in ambiguity, never elaborating on who or what the Bydo are or why it is each side is warring; all the player has to go on are the immortal lines "Blast off and strike the evil Bydo Empire". Subsequent games, however, would elaborate and explain that the Bydo were the creation of man – a horrendous experiment (likely a biological weapon)



TUFF THE MAGIC DRAGON

Despite the coin-op being distributed by Nintendo in the West, the NES never found itself with a port of *R-Type*. However, the game would, kind of, get a very loose port of the game courtesy of Magic Series Corp. The game, titled *Magic Dragon*, is a bizarre clone of *R-Type* that supplements your R-9 fighter for a jet, and turns the Bydo Empire into Deathstar contractors, knights, birds and lobsters. The level layout and gameplay between the two games are very similar, and like *R-Type*, you get a chargeable Wave-type weapon and a variant on the Force Shield. The absolute best thing about the game, though, is the brilliant number Magic Series did on Dobkeratops, which makes the terrifying alien beast resemble something in *Parodius*.

created in the 26th Century before being sucked into a wormhole. Left to evolve somewhere in the dark recesses of space, they grow in strength and numbers, and travel back through time to the 22nd Century to exact revenge on their creators.

The Bydo are depicted as a malevolent force, a malignant virus incapable of reasoning. Their iconic biomechanical style shared an uncanny semblance with HR Giger's seminal *Alien* designs, cleverly helping to add association to their evilness, and the freakish melding of thing and machinery proved unsettling, particularly against the dark and oppressive backdrop of space. *R-Type* was the first game to really adopt this biomechanical style to its visuals, but it certainly wouldn't be the last, as the game spawned a myriad of clones and imitators (see 'R-Types' boxout).

"We thought it would be extremely hard to invoke a big scale atmosphere with a simple biological expression, and this is why we settled on the biomechanical design. I also think by implanting machines into living things, the game became more interesting," recalls Kazuma.

As Kazuma and his team hoped, the unusual look of *R-Type* was enough to pique curiosities and suck the jangling coffers away from trouser pockets. This interest was no doubt bolstered by having the game's first boss, the scorpion-tailed Dobkeratops (also known as Doppelganger, Krell and Gladiator) appear on the cab's side stickers and flyers, which was a common style for shoot-'em-up decor at the time (*Space Invaders*, *Galaxian*, *Millipede*).

Dobkeratops, which the player encounters at the end of *R-Type*'s first stage, became one of the most iconic videogame bosses of all time. His monstrous foetus-like form, entangled in floating eyeballs, takes up almost the entirety of the game screen, and his presence builds tension brilliantly as the player's tiny R-9 fighter is forced ever closer to its grotesque target. Such was Dobkeratops's popularity that Irem would ensure the creature's appearance would stretch the entire breadth of the series. The giant boss can often be seen popping up throughout the franchise, most memorably in *R-Type Final* where he was fully realised in 3D, and awaiting the player in an underwater lair.

"With regard to the design of Dobkeratops, the original model was actually one that our lead designer had since joining Irem, and was used without any changes. With the bosses we made a lot of effort to create unique characters – something that nobody had ever conceived, attacked or seen before."

R-Type was famed for its bevy of imaginative and gargantuan end of level guardians, with the most innovative being the Bydo

IN THE KNOW

» **PUBLISHER:** NINTENDO

» **DEVELOPER:** IREM

» **RELEASED:** 1987

» **FEATURED PLATFORM:** ARCADE

» **GENRE:** SHOOT-'EM-UP

» **EXPECT TO PAY:** £400+

THE MAKING OF... R-TYPE

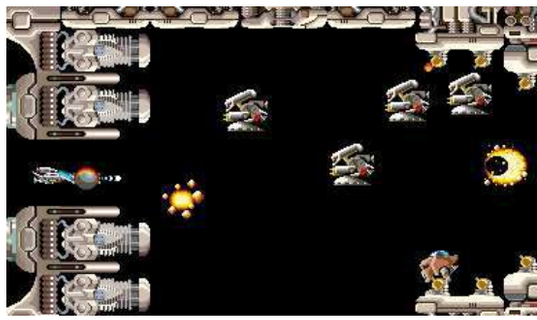
A DIFFERENT TYPE

The third game set in the *R-Type* universe saw a huge departure for the series. With a deceptive title, *Armed Police Unit Gallop* (aka *Cosmic Cop*), and no splash screen to tie it and the *R-Type* series together, many fans are unaware that the two games are even connected. In *Armed Police Unit Gallop*, the player assumes the role of a private security firm that is contracted to hunt and destroy machines that have been driven insane by the Bydo. It looks and plays quite a bit differently to *R-Type*. The streamlined R-9 is replaced with a tubby looking ship that resembles a set of bagpipes called R-11B Peace Maker.
The action is also a lot faster, environments can be deformed and the special laser weapon replenishes and hones in on enemies automatically. Perhaps the most innovative mechanic in the game is the player could alter the scroll speed. Sadly, though, it really isn't a patch on *R-Type*. Perhaps that's why Irem chose not to openly connect it to the franchise.

» **Below:** *Armed Police Unit Gallop* is a spin-off of the main *R-Type* franchise that now takes place across Earth's surface..

» **Above:** The first stage of R-Type really does help seperate the men from the boys.

» **Below:** The action in *R-Type* is unrelenting, but it's just so addictive you won't be able to put it down.



"At the early stage of the R-9's planning, we wanted the ship to shoot up and down as well as front to back" KAZUMA ON THE R-9 FIGHTER

frigate – a boss so huge its mass stretched the entirety of the third stage, essentially playing the role of both level and boss. While this idea has since been copied by many games since *R-Type*'s release (*Contra III*, *Pulstar* and *Thunder Force III* being examples), the yellow and green Bydo gunship has always struck a chord with shoot-'em-up fans, and was later paid homage to by Irem in *R-Type Delta*.

"Actually, the ship was originally intended to be the final boss, and was designed as the 'moving base' of Bydo. We were keen to have players destroy the surface of this giant ship but at the same time we also wanted all players to enjoy this unique character, so the decision was made to bring it forward to Stage 3. I think Stage 5's boss, Bellmate, is the most interesting. It appears with so many masses of cells around it, which fly toward the player's ship one after another, and its attack pattern is unique. The player has to charge their shot to destroy it, and I also like the rhythm of its attack."

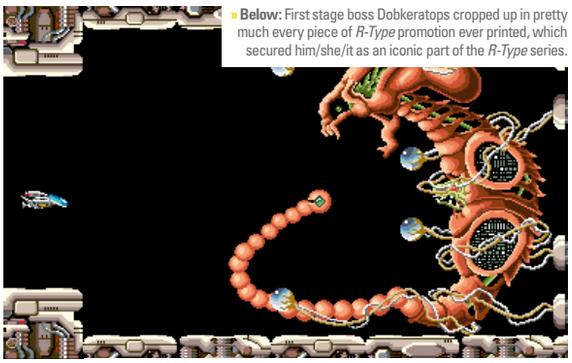
R-Type featured eight tortuous but wonderfully designed stages (unless you're playing the TurboGrafx 16 version, which was memorably split into two parts upon its initial release) and was famed for its unrelenting difficulty, despite the irony that its action, when put against its contemporaries, scrolls at a far more considered pace. Even *R-Type*'s first stage could prove a R-9 graveyard in inexperienced hands, but it was a combination of Irem's wonderful eye for design and *R-Type*'s compelling gameplay that kept gamers coming back for more punishment. But then *R-Type*'s mantra is not to try and clear each screen, or to rack up as many points as possible, but rather to try to and clear each stage.

"Because the game was originally developed for the arcade, we made the balance of the difficulty considering the players' achievement – based on how far somebody could get on a single credit [100 yen]. We also paid close attention to the changes that occur between each stage. The colours and themes change rapidly rather than gradually," explains Kazuma.

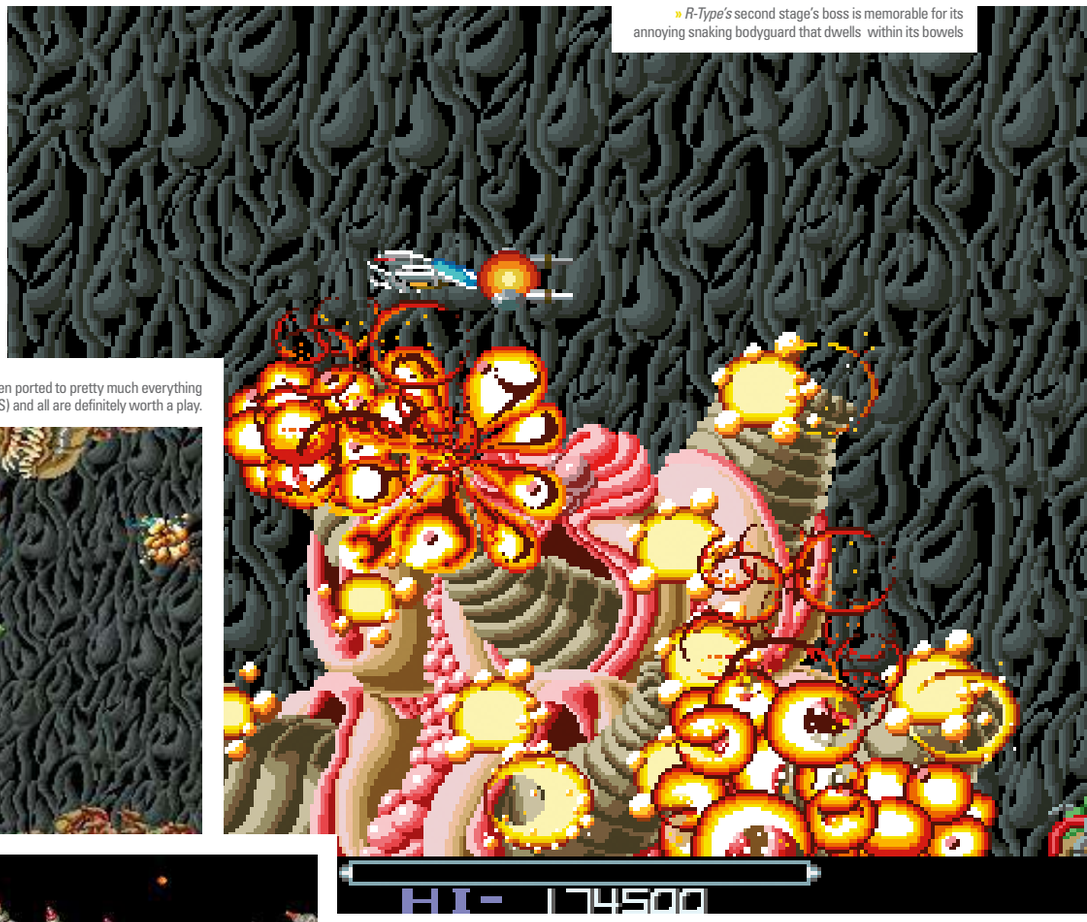
The Arrowhead R-9 fighter (the player's craft) has become one of the most iconic and well loved ships in the shoot-'em-up genre. Its lean and elegant body, ebbing into a peaceful-looking blue cockpit, is unarguably one of the most fondly remembered flying vessels in living memory, and has remained a firm fixture throughout the series. In its opening form, the R-9 is equipped with a Wave Cannon – a weapon that could be charged up by holding down the fire button and used to rocket a concentrated beam of energy towards the enemy. This alone fused a wonderfully simple risk-and-reward element to *R-Type*'s action, as players were forced to weigh up holding down the fire button to give them a devastating special attack or whittling down the many smaller threats to give your ship a bit more room to manoeuvre. Despite the R-9's iconic status within the franchise, Kazuma reveals that the Arrowhead R-9 fighter almost never made it into the videogame at all.

"In the beginning we actually considered a robot that could transform into a combat plane, but as the game developed, this idea gradually changed into the "Force" and disappeared. At the early stage of the R-9's planning, we wanted the ship to shoot up and down as well as front to back," Kazuma continues. "Initially, the ship could turn around and shoot backwards as it transformed into the robot, but the concept didn't work very well. It was then we realised that we could solve the problem using the Force."

The Force, which took the shape of detachable power-up that could be attached to either end of your ship, proved another important mechanic that would ensure *R-Type*'s success in arcades and help



» **Below:** First stage boss Dobkeratops cropped up in pretty much every piece of *R-Type* promotion ever printed, which secured him/she/it as an iconic part of the *R-Type* series.



» *R-Type's* second stage's boss is memorable for its annoying snaking bodyguard that dwells within its bowels

» **Below:** *R-Type* has been ported to pretty much everything (expect the NES) and all are definitely worth a play.

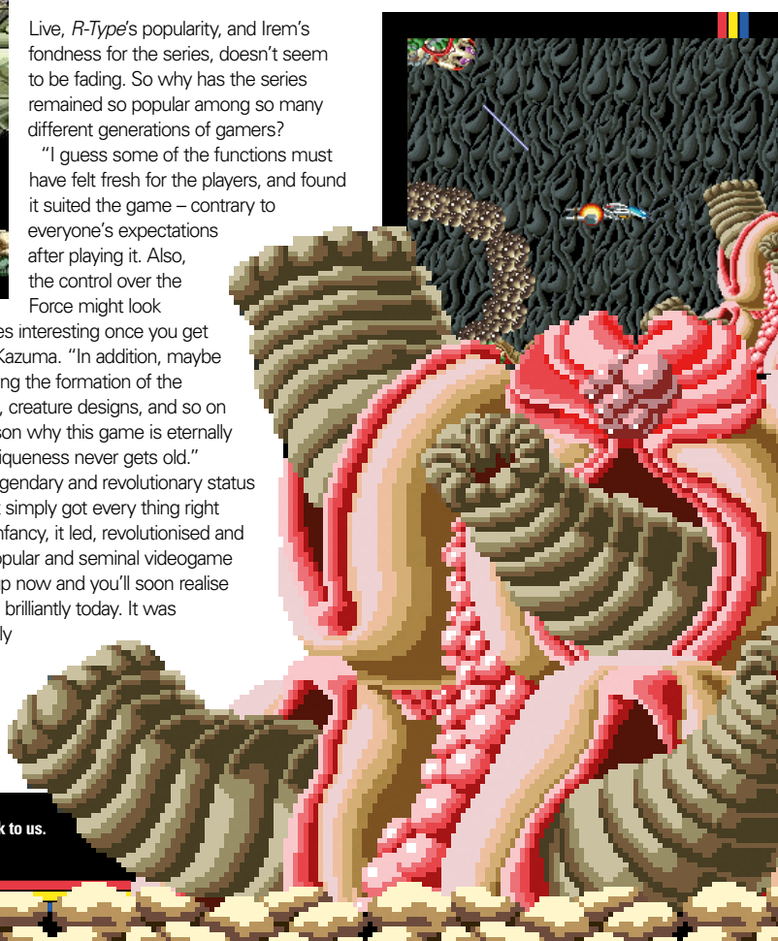
separate it from its peers. It was the player's only ally for the entire skirmish, and acted as weapon and shield – a power-up that would exponentially raise the fire and muscle power of the Arrowhead while also absorbing incoming enemy fire. But that wasn't all; players could also punch the Shield into the path of enemies, detach it to allow it to roam the play field, and use it to strategically switch between front and rear defence at the flick of a button. Skilled R-Typists quickly realised that progression would rely on their talent to effectively wield the Force and quickly worked out ways to use it to their advantage. Dobkeratops, for instance, can be easily dispelled by launching the Shield into its weak spot, rather than peppering it repeatedly with firepower. So how did the concept and idea for the Force come about?

"The Force was actually inspired by the ball-rolling Dung Beetle", reveals Kazuma. "Initially, it could be added to the top and underbelly of the ship – not just back and front, but we found the concept difficult to use, so we removed it. At that time, we were seeing so many shoot-'em-ups appearing from other publishers, we wanted to incorporate a dramatically unique power-up system into our game. We also spent a lot of time refining the specifications of the player's ship and the look of the enemies that appear at the beginning of the game."

The *R-Type* series has spanned an astonishing 21 years. And with the recent release of *R-Type Tactics*, which afflicts an even more considered pace to the series through turn-based combat, plus the forthcoming *R-Type* double pack, in the form of *R-Type* and *R-Type II* (essentially a HD reboot of *R-Type*s on the PSone), heading for Xbox Live, *R-Type*'s popularity, and Irem's fondness for the series, doesn't seem to be fading. So why has the series remained so popular among so many different generations of gamers?

"I guess some of the functions must have felt fresh for the players, and found it suited the game – contrary to everyone's expectations after playing it. Also, the control over the Force might look difficult but it really becomes interesting once you get used to using it," explains Kazuma. "In addition, maybe the variety and fun of learning the formation of the attacks, the game's setting, creature designs, and so on also helped. I think the reason why this game is eternally appealing is because its uniqueness never gets old."

The basis for *R-Type*'s legendary and revolutionary status becomes plainly obvious: it simply got every thing right the first time round. In its infancy, it led, revolutionised and shaped one of the most popular and seminal videogame genres ever. Boot *R-Type* up now and you'll soon realise that the game still holds up brilliantly today. It was innovative, stunning, a highly exigent masterpiece, and a phenomenon. And the ground it vociferously broke can still be felt, even today.

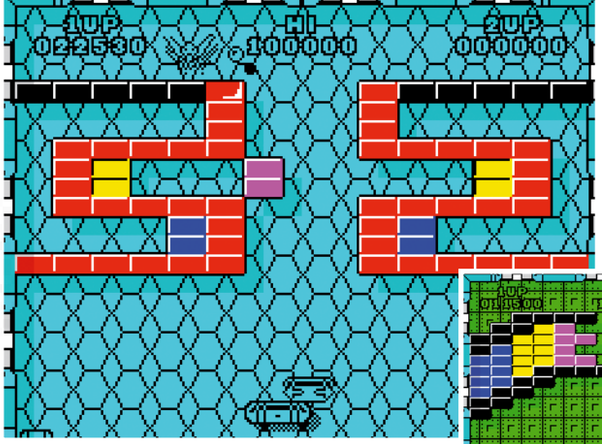


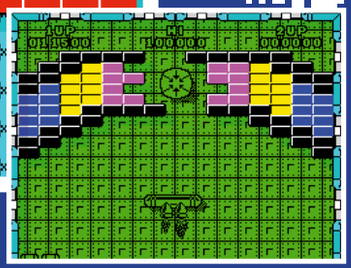
Retro Gamer would like to express a huge thank you to Kazuma Kujo and Irem for taking the time to speak to us.

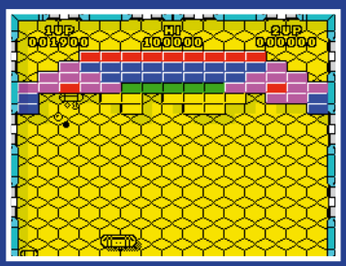
TOP 25 spectrum games OF ALL TIME

JUST BECAUSE THEY'RE AMSTRAD BOYS DOESN'T MEAN THAT STUART AND DARRAN DON'T KNOW HOW TO LOVE ITS LESSER 8-BIT RIVALS*. SO JOIN THEM AS THEY FIDDLE WITH THEIR KEMPSTON INTERFACES, WAGGLE THEIR QUICKSHOTS AND LOVINGLY LOOK BACK AT SOME OF THE SPECTRUM'S GREATEST HITS

*We are joking, of course







Batty

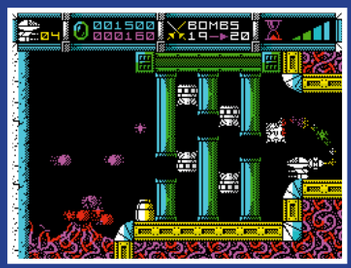
■ **Year:** 1987

■ **Publisher:** Hit Pak

25 ***Arkanoid*** **may have received an extremely polished conversion on the humble ZX Spectrum, but it couldn't compete with this monumental epic from Hit Pak.**

Each level has been beautifully constructed, there are huge amounts of power-ups that include a bog-standard laser, your typical extender and a handy level warp, and there are also a variety of different options, including a wonderful co-op mode that effectively splits the bottom of the screen into two parts. You monitor one side of the screen, while a friend manages the other.

Add in some fiendishly well-put-together levels, some bold, cartoon-like visuals and some hellishly addictive gameplay and the end result is one of the best *Breakout* clones of all time. The fact that it was initially given away for free with *Your Sinclair* is absolutely staggering.



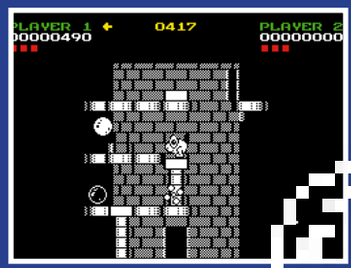
Cybernoid

■ **Year:** 1988

■ **Publisher:** Hewson Consultants

24 **Raffaele Cecco's wonderful** ***Cybernoid*** **harks back to the good old days when game testing was solely the responsibility of the developer, shoot-'em-ups were one of the most popular genres around and games required pixel-perfect timing in order to proceed.**

Cybernoid is possibly the toughest game in our top 25. It requires insane levels of concentration, dextrous keyboard and joystick skills and the patience of a saint. Despite this, *Cybernoid* always pulls us back for one more go and remains so polished you can almost see your face in it. What makes it so essential is its jaw-droppingly vibrant visuals, intricately designed levels and spot-on controls (it has the sort of pixel-perfect precision normally seen in platformers). It's not for everyone, but it's an experience that shouldn't be missed under any circumstances.



Nebulus

■ **Year:** 1988

■ **Publisher:** Hewson Consultants

23 **There's a veritable deluge of brilliant platformers and puzzle games available on the ZX Spectrum, but very rarely are these two rather distinct genres successfully combined.**

Nebulus – which is also known as *Tower Toppler* or *Castelian* depending on whereabouts you live – is a wonderful example of this combination of genres and sees you guiding a cute bipedal alien named Pogo to the top of several towers. Once at the top, these towers must then be detonated.

Working against a tight time limit, you're required to use lifts and handy doorways to zip back and forth through the cleverly rotating towers – a graphical feat that still manages to impress today – in order to avoid the tower's numerous enemies. As challenging to play as it is gorgeous to look at.

Fantasy World Dizzy

■ **Year:** 1989

■ **Publisher:** Codemasters

22 **Ever since Philip and Andrew Oliver's ovoid creation appeared in the** ***Ultimate Cartoon Adventure*** **we've always had a soft spot for Dizzy.** ***Fantasy World Dizzy*** **is not only Dizzy's greatest 8-bit adventure, it's also the very last 8-bit** ***Dizzy*** **adventure from the Oliver twins – development duties for the game's sequels were handed over to Big Red Software.**

The brothers certainly left on a high though. *Fantasy World Dizzy* is a huge, beautifully crafted adventure that features well-thought-out, and far better-balanced, puzzles, a new *Magic Knight*-style interface, the introduction of the Yolkfolk and a surprising amount of humour.

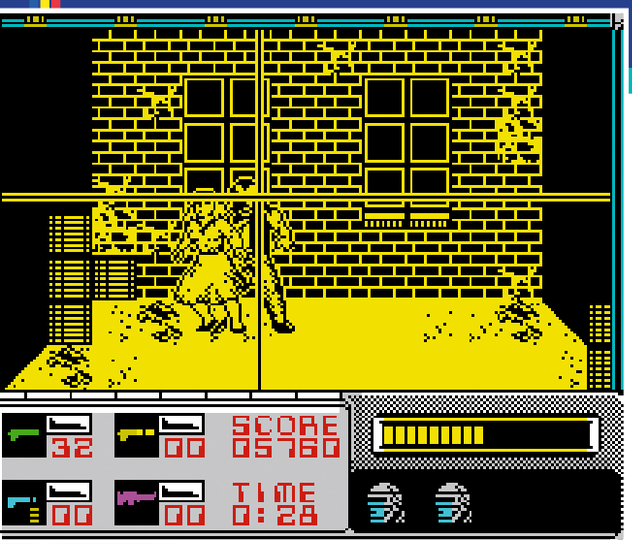
You may not be able to make an omelette without breaking a few eggs, but by not damaging their mascot the Oliver twins certainly proved that it was entirely possible to create an excellent arcade adventure.

"CYBERNOID IS POSSIBLY THE TOUGHEST GAME IN OUR LIST, REQUIRING INSANE CONCENTRATION, DEXTROUS JOYSTICK SKILLS AND THE PATIENCE OF A SAINT"

TOP 25

spectrum games

OF ALL TIME



RoboCop

■ **Year:** 1989

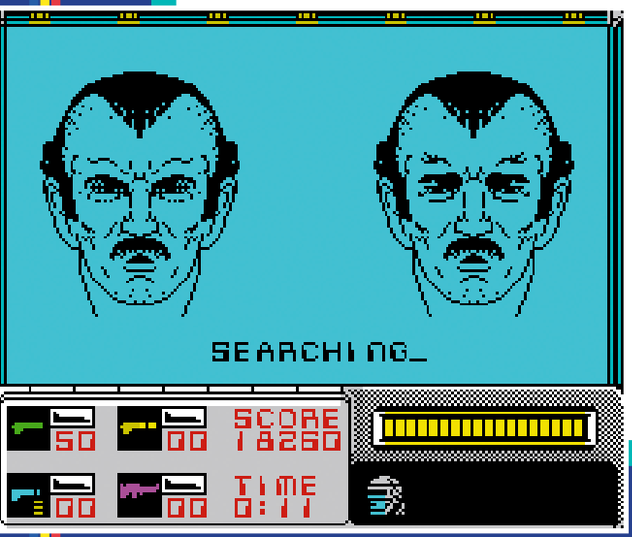
■ **Publisher:** Ocean

21

After churning out cheap-and-cheerful licensed dross like *Transformers*, *Knight Rider* and *Highlander*, Ocean turned a corner and began releasing quality movie tie-ins.

RoboCop remains one of the best examples, and by using the template of the incoming Data East blaster and juxtaposing the action with clever mini-games, such as rescuing hostages and putting face IDs together, Ocean created a tie-in that few other developers (Ocean included) were able to improve upon.

The mostly monochrome visuals do a great job of capturing the spirit of the original film, and while the action is a little more pedestrian than we remember, it nevertheless remains great fun to play. Film and TV licences were ten a penny on the 8-bit computers and it's a testament to both Ocean's development skills and *RoboCop*'s enjoyable gameplay that it's the only example to make our list.



Sabre Wulf

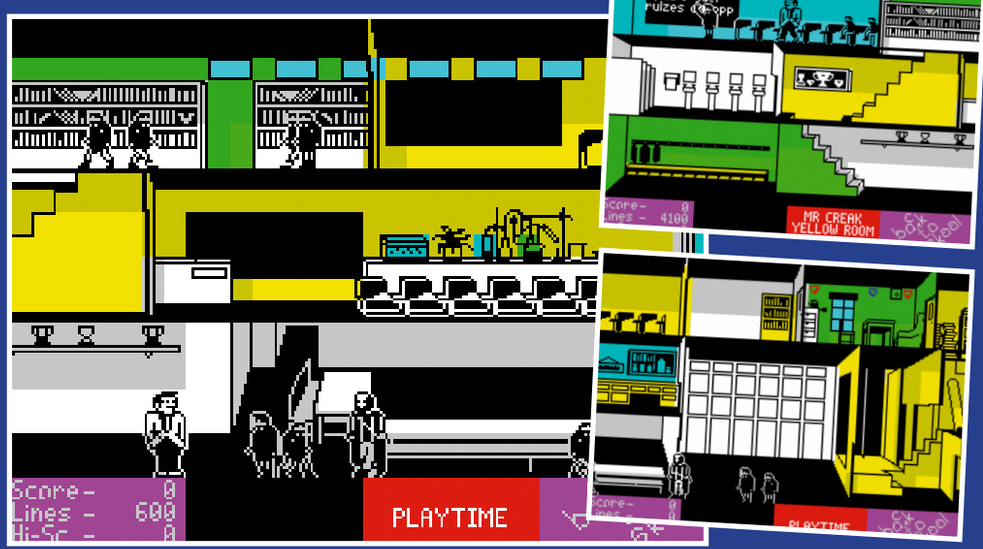
■ **Year:** 1984

■ **Publisher:** Ultimate: Play the Game

20

We've been playing Ultimate's brilliant *Sabre Wulf* for 24 years now and we still haven't been able to collect all four pieces of that sodding amulet. Not to worry, though, it simply allows us to appreciate what a staggering game Sabreman's first outing actually is.

Taking place over an absolutely humongous 256 screens, you're required to do nothing more than explore the vast and varied jungle to recover the four aforementioned missing pieces of a precious amulet. Of course, as you would probably expect, this is much easier said than done, and Sabreman has to contend with some rather angry natives, the titular Sabre Wulf and all manner of horrible jungle critters before he's able to complete his lofty goal. With its gorgeous visuals, fast-paced gameplay and massive environment, *Sabre Wulf* is typical of the care and attention to detail that the Stamper brothers put into all of their early Spectrum games, so don't be too surprised if you see a few more Ultimate games before our top 25 Spectrum games feature is finally complete.



Back To Skool

■ **Year:** 1985

■ **Publisher:** Microsphere

19

After wowing Spectrum owners with the brilliant *Skool Daze*, David Reidy and Keith Warrington returned a year later with a sequel that was even more ambitious.

You were once again cast in the shorts and blazer of the mischievous Erik, but this time he was able to get up to even more mayhem and mischief. A new girl's school increased the playing area. Erik also had access to stink bombs and water pistols as well as his trusty catapult now, while it was even possible for the little scamp to catch mice and frogs (of which the former could be released in the girl's school). Other improvements to the original included the ability to ride a bike and the handy option of opening desks in order to discover what was hiding inside them.

Back To Skool still proved hard going for those used to being hand led through their games, but it still managed a level of interactivity that few other Spectrum titles have ever been able to match.

"BACK TO SKOOL PROVED HARD GOING, BUT IT STILL MANAGED A LEVEL OF INTERACTIVITY THAT FEW OTHER SPECTRUM TITLES HAVE EVER BEEN ABLE TO MATCH"

Luxor the Moonprince
It is night and Luxor is very indignated. The Ice Feam is very mild. Luxor is utterly bold. He has with him the Moon Ring.
He thinks again....

Ant Attack

■ **Year:** 1983

■ **Publisher:** Quicksilva

18 **Predating *It Came From The Desert* by a good six years, Sandy White's *Ant Attack* remains a game of stark beauty and cunning gameplay. Taking control of either a young girl or a young boy – don't worry they control in exactly the same way – your task is to venture into the abstract walled city of Antescher in search of your missing beau.**

While the first level is relatively easy – a quick hop, step and a jump over the wall and you're practically done – later stages are anything but, and it's here where White's true genius becomes apparent. Initially coming across as little more than a pile of hastily assembled Lego blocks, the city of Antescher soon reveals itself to be a deadly maze, where ants can jump out at you at any time.

Granted, you've got 20 grenades to take them on with, but the claustrophobia quickly sets in, and later levels became a frightening race against time as your ragged nerves deal with five or six ants, a missing loved one and a constantly ticking timer. Truly terrifying.

The Lords Of Midnight

■ **Year:** 1984

■ **Publisher:** Beyond Software

17 **You'll never forget the first time you played Mike Singleton's *The Lords Of Midnight*. With its lavish packaging, accompanying overlay card and distinct gameplay, it proved that there was more to the Spectrum than simple platformers and arcade conversions, and it remains a very atmospheric title without equal.**

What impresses most about *The Lords Of Midnight* is its flexibility. While the main objective is to lead your four adventurers on a quest to destroy the fabled Ice Crown, it's possible to forget the task completely and just concentrate on amassing a huge army. If that doesn't take your fancy you can just as easily combine the two into an epic adventure that few other 8-bit games could match.

Massive in scale – the pseudo-3D graphics display over 31,000 different views – and rich in atmosphere, *The Lords Of Midnight* is a Spectrum title that everyone should experience. If you're familiar with it, go back and play through it again. A true classic.

Turbo Esprit

■ **Year:** 1986

■ **Publisher:** Durrell

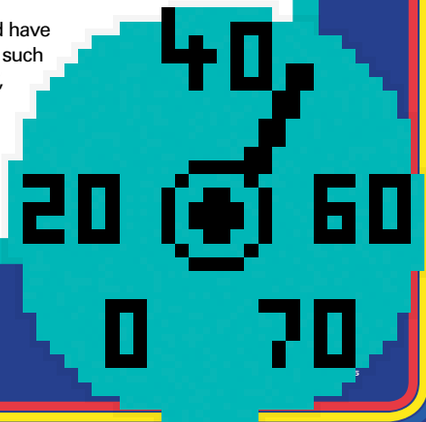
16 ***Turbo Esprit*, not to be confused with the Gremlin game with a very similar name, is a criminally great sandbox game from the makers of *Harrier Attack*.**

This sublime little gem had you taking to the mean streets of Wellington, Gamesborough, Romford and Minster and indulging in a spot of covert stakeout-type drug busting.

Boasting bustling cities crammed with Durell's signature ant-looking denizens, staggering AI and a novel feeling of freedom, *Turbo Esprit* would later go on to become a major influence on Rockstar's *Grand Theft Auto* series.

And while the game probably would have benefited from a slightly punchier title, such as '*Turbo Elite Cokehead Apprehender*', playing the game was still like being in your own episode of *Miami Vice*.

Quite simply there's nothing quite like it on the Speccy and so, for that reason, it's in.



TOP 25

spectrum games

OF ALL TIME

Jet Set Willy

Year: 1984

Publisher: Software Projects

15 **We've all been there, the morning after the night before. In this case, a house party, probably the outcome of a careless exchange on a popular friendship website, has meant that Willy's mansion, after being packed to the rafters with beer guzzlers and winos, has now been alcoholically decimated.**

And to make matters worse for Willy, his lardy housekeeper has put her stomping foot down and is preventing poor Willy from going to bed, recharging the old batteries and promising to do something about the mess in the morning.

Matthew Smith's second house of pain was a sublime and simple platforming jaunt that built on the brilliance of *Manic Miner.*

Jet Set Willy was released into a swathe of high expectancy, both by gamers, preying that it would be as good, if not better, than the original, and by its publisher, who was hoping to make a shed load of cash – which was the reason that the game came packed with an annoying copy protection card.

Jet Set Willy's quirky and colourful palette, warped imagery and surrealist humour captured perfectly the irreverence of videogames of the time. And as it was built with the Spectrum in mind, it is widely considered to house the finest version of the game.

Chase HQ

Year: 1988

Publisher: Taito

14 **Taito's wonderful pursuit racer still gets a lot of play in the Retro Gamer offices. While we would lovingly hand the best conversion accolade to the Amstrad for its colourful finesse, the Spectrum's offering does feel fractionally more fluid, especially when you're belting across *Chase HQ*'s quasi-3D tarmac, screaming, "Let's go Mr Driver!"**

The Speccy has been blessed with some truly brilliant racing games in its lifetime, but *Chase HQ* showcases a real eye for detail and technical ability from Ocean. An almost impractical chasm sat between the arcade machine and the ZX Spectrum, and yet, somehow, Ocean managed to rev the Porsche 928 to pretty much clunking-out point before flicking a nitro switch and jumping that gorge magnificently.

Chase HQ was blessed with an almost perfect home arcade port – easily up there with the likes of *Sega Rally* and *Buggy Boy.* It is the quintessential Spectrum racing game and was massively popular with Speccy owners back in the game's heyday… so popular, in fact, that *Your Sinclair* readers went on to vote it the best Spectrum game of all time.

"JET SET WILLY'S QUIRKY AND COLOURFUL PALETTE, WARPED IMAGERY AND HUMOUR CAPTURED THE IRREVERENCE OF VIDEOGAMES OF THE TIME"

Chuckie Egg

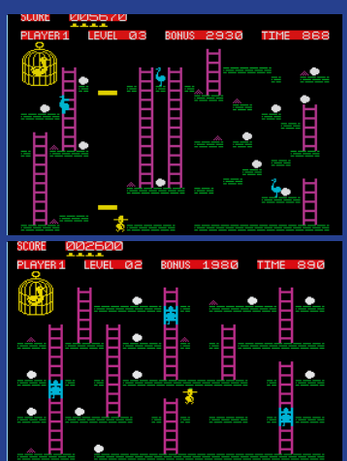
Year: 1984

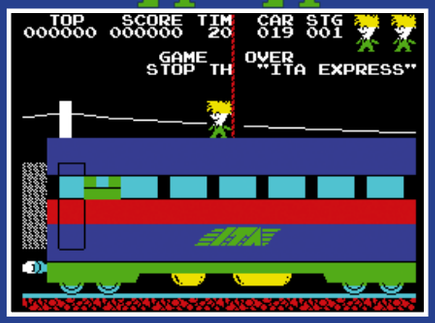
Publisher: A&F Software

13 **Nigel Alderton's classic platformer is so ingrained in the minds of BBC owners that it's easy to forget it started off life as a Spectrum title (see RG 40 for details). Based on some of Alderton's favourite coin-ops, such as *Donkey Kong* and *Space Panic*, *Chuckie Egg* is an insanely fast platformer that sees hero Hen House Harry going up and down ladders and leaping across platforms in search of eggs, while avoiding the angry hens.**

Unlike other platformers of the time, which were more methodical and slower-paced, '*Eggy Kong*' (as it was originally known) dashed along at a cracking pace and really felt like it had escaped from your local arcade. It may have only had eight levels, but they were fiendishly designed and it wasn't until several loops had passed and the huge caged duck had been released that you began to appreciate just how expertly crafted they were.

It's not one of the Spectrum's most original platformers, but there's no denying that it's one of the most polished. A classic in every sense.





Stop The Express

■ **Year:** 1983

■ **Publisher:** Sinclair Research Ltd

12 **If we're honest, 12th seems a little meagre for this sublime Hudson title, but the reasoning is this: there really is an abundance of top-notch games on the Spectrum.**

Chunky arcade-style graphics, quirky premise and compulsive playability sum up all the factors that make a classic retro game, and *Stop The Express* succeeds in ticking all those boxes.

Playing a shaggy-haired blonde chap in green pyjamas, it was your job to stop a train by fighting your way from one end to the other. Trying to put a leaf on your track were 'train gangsters' who could be felled by grabbing and kicking 'snake birds' at them. Brilliant.

After you'd traversed the first ten carriages from the rooftops, the game put you inside the train, where you had to avoid more dagger throwers and the ectoplasm of trundling ghosts.

Stop The Express is a simple and beautiful Speccy game. We believe a "Congraturation! You sucsess!" is firmly in order here.

Starquake

■ **Year:** 1985

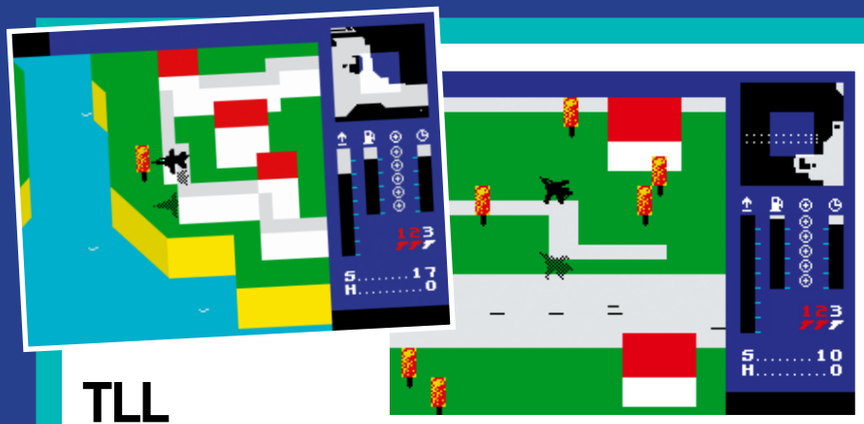
■ **Publisher:** Bubble Bus

10 **Stephen Crow's *Starquake* may share many similarities with a typical Ultimate release – brilliantly drawn visuals, engaging gameplay, strong main character – but extended play soon reveals it to be something quite different.**

Essentially a cross between a shoot-'em-up, platformer and an adventure game, *Starquake* is a fun title that casts you in the form of BLOB (Bio-Logically Operated Being) who must find the missing parts of his crashed spaceship.

Fortunately, in order to make traversing the huge – 512 screens – planet easier, BLOB has a number of handy abilities. As well as being incredibly fast – the game pelts along at a cracking pace – he can create platforms, which last for a limited time, to reach out of the way areas, or he can simply jump on to a nearby hoverboard (although this makes it impossible for him to pick up items). There are even handy teleports to use, therefore making the gigantic world far more manageable.

With its beautifully drawn visuals, clever mishmash of genres and addictive gameplay, *Starquake* manages to deliver an experience that's quite unlike any other Spectrum release. Visit the World Of Spectrum website today to discover its magic for yourself.



TLL

■ **Year:** 1984

■ **Publisher:** Vortex Software

11 **If you're the sort of Spectrum owner who's constantly hounded by C64 and Amstrad owners, show them Vortex Software's amazing *TLL* and watch them shut up faster than a superglued clam.**

Created by Costa '*Deflektor*' Panayi, *Tornado Low Level* (to give it its full title) is an insanely slick looking title that features some of the smoothest and flicker-free scrolling you're ever likely to see on Sir Clive's humble 8-bit.

Taking control of a Tornado jet, you're simply required to fly around and participate in strategically placed missile strikes. There are no actual enemies and nothing to shoot at; it's just your fighter, a constantly dropping fuel supply and plenty of hazards – trees, houses, telephone wires – to avoid.

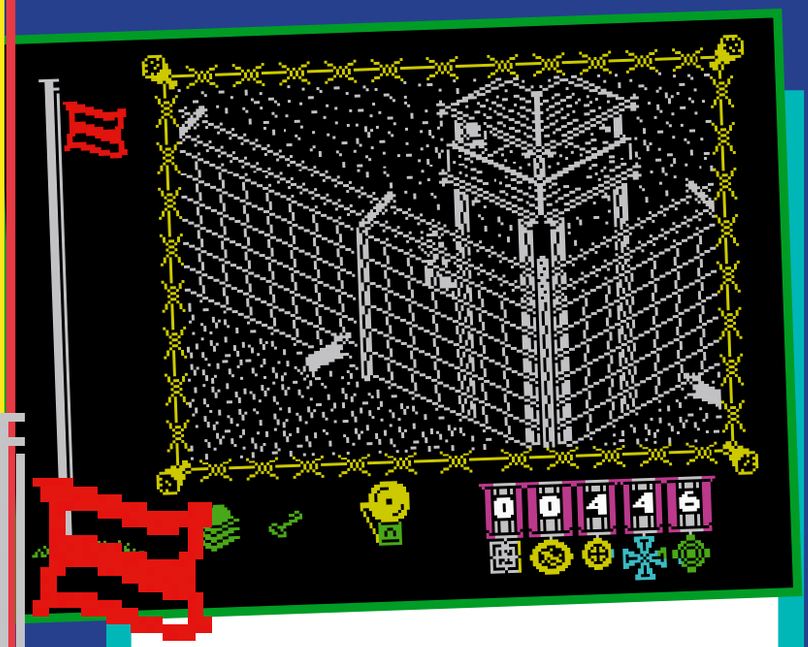
It sounds simple, boring even, but this couldn't be further from the truth. *TLL* requires a cool nerve, insane gameplay skills and a hefty pair of balls – you have to fly dangerously close to the ground to bomb your targets – and is not for the faint-hearted.

Those feeling the need for speed, however, will discover a title that's not only graphically amazing, but, more importantly, has the actual gameplay to back it up. Stunning. Simply stunning.

TOP 25

spectrum games

OF ALL TIME



The Great Escape

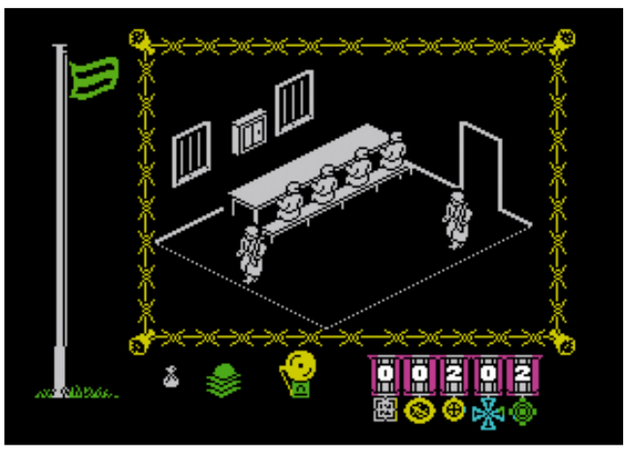
■ **Year:** 1986

■ **Publisher:** Ocean

9 **This hazy movie tie-in by Denton Design proved to be a very surprising hit for Ocean when it was released on the Spectrum. *The Great Escape* plonked the player into a peculiar monochrome ritual of breakfast, roll calls and wily absconding.**

It was a brilliantly designed game that brimmed with a stellar cast of innovative ideas – it offered various different escape routes from the camp and your hero would automatically adhere to the camp's routines if you left him to his own devices for too long. *The Great Escape* proved to be a trailblazing Spectrum classic that benefited from the computer's small colour palette by coating the game in a tense cheer-destroying bleakness.

It also helped to give movie tie-ins some credibility, dragging the much-reviled genre out of solitary confinement and proving that it could fit in with the rest of the law-abiding game genres that existed at that time.



R-Type

■ **Year:** 1988

■ **Publisher:** Electric Dreams

8 **It's been 20 years now and we still can't work out how Bob Pape and Mark Jones pulled off this stunning conversion (if you're reading guys, we'd love to hear from you).**

Anyway, *R-Type* on the Spectrum is a thing of beauty and is easily the best arcade conversion to grace the machine. The graphics are incredible, with huge, brightly coloured sprites, very little colour clash, insanely smooth scrolling and amazing looking bosses. Level layout throughout is virtually identical, with many classic scenes from the arcade original being instantly recognisable, making for a wonderfully authentic experience.

It wasn't just *R-Type*'s gob-smacking visuals that impressed, as its gameplay was just as finely honed. The force might not have been as responsive as its arcade parent, but that's our only niggle, everything else – enemy placement, movement and structure – is near identical, meaning that many of the tricks can be pulled off perfectly. An astounding conversion that proved to Amstrad and C64 owners that the Spectrum was still a force to be reckoned with.

Knight Lore

■ **Year:** 1984

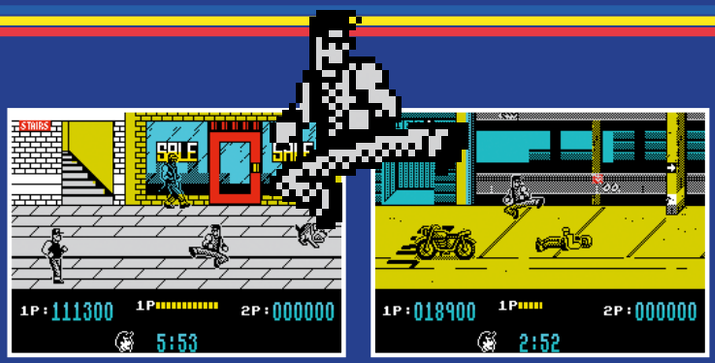
■ **Publisher:** Ultimate

7 **Sabreman returns, but this time he's gone isometric! After wowing gamers with titles such as *Jetpac*, *Sabre Wulf* and *Pssst*, Ultimate ushered in a new era of Spectrum visuals by dressing up Sabreman in some brand new isometric clothing.**

Granted, an isometric Spectrum game was certainly nothing new – take a bow 3D *Ant Attack*. However, Ultimate's new 'Filmation' engine pushed the unique-looking style to previously unseen levels and delivered a title that was both stunning to look at and an absolute joy to play through.

After receiving a wolf bite at the end of *Sabre Wulf*, Sabreman has to explore the enormous castle and create the potion that will help to free him from his lycanthropic curse. Along the way he also has to deal with some incredibly fiendish puzzles that require critical timing, fast reflexes and plenty of skill. Oh, and did we mention that the poor blighter turns into a werewolf every evening?

Constantly imitated (most notably by Ultimate itself), but very rarely bettered, *Knight Lore* is a gloriously fun adventure that not only helped to cement the Stamper brothers as a force to be reckoned with, but also proved that Sir Clive Sinclair's humble 8-bit machine still had the ability to pleasantly surprise.



Target Renegade

■ **Year:** 1988

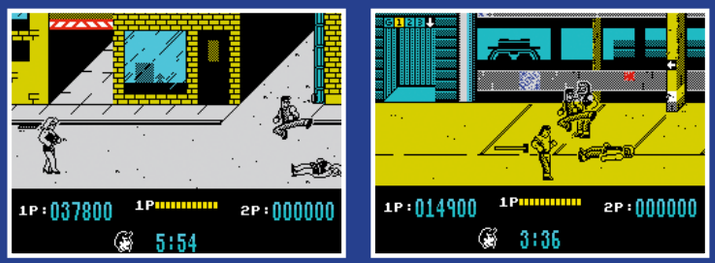
■ **Publisher:** Imagine

6

What do you do when you release a hit conversion of a popular arcade game that's never been blessed with a proper sequel? If you're Imagine Software you simply release your own unofficial spin-off that's even better than the arcade original.

With its bold, cartoony visuals, incredibly violent gameplay and frantic two-player action, Imagine's *Target Renegade* instantly captured the hearts of those arcade gamers who were obsessed with Technos' *Double Dragon* and delivered a home experience that no other fighter of the time was able to match.

Never mind that the plot's flimsier than a house of cards and has the disgraced gangs trying to redeem their honour by killing the renegade and his identical twin brother – *Target Renegade* was all about the action and Imagine did not disappoint. Punches, vicious knees to the groin and flying kicks were just a few of the moves the brothers had access to, while weapons like hammers, chains and even pool cues could be used to dish out additional hurt to your hapless foes. Excellent stuff.



Manic Miner

■ **Year:** 1983

■ **Publisher:** Bug-Byte

5

For further insight into the nutty world of *Manic Miner* head over to page 22 and read our in-depth 'Making of'. *Manic Miner* created many imitators, but none quite reached the heights of the original. It is the Spectrum's best platformer and a stunning example of the genre.

Despite being only 20 screens long – although it would take you some time to finish – *Manic Miner* proved to be the crowning jewel of Smith's short-lived career and delivered an experience that, if we're truly honest, Smith never had a fair chance of succeeding. Indeed, it's very much platform perfection.

Every enemy is well placed, the structure of each platform feels almost organic, while the pixel-perfect jumping will never – for the most part – test your patience. With its jaunty opening, boot-stomping ending and bizarre enemies, Smith's game proved to be a masterpiece that, 25 years later, still manages to impress.

An utterly ingenious piece of programming that shows just how far you can go with sheer talent and a very healthy imagination.

Elite

■ **Year:** 1985

■ **Publisher:** Firebird Software

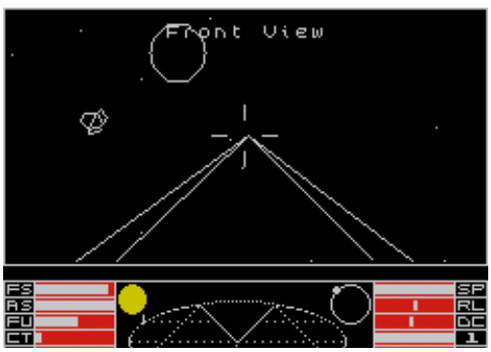
4

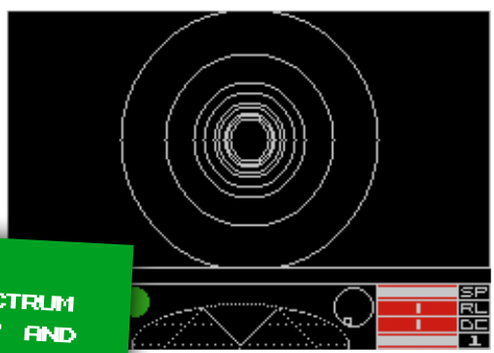
We came extremely close to leaving *Elite* out of our top 25 list altogether, mainly due to its heavy association with the BBC and last month's extremely in-depth and exhaustive feature. However, after giving it a little bit of thought, we suddenly realised that there's no other Spectrum game out there that offers the same kind of unique experience as *Elite*.

With Firebird owning the rights to a glut of new systems and David Braben and Ian Bell busy at work on other conversions, it was left to Torus to handle the highly anticipated Spectrum conversion. Fortunately though, the end result was a highly accurate re-creation of the original BBC release that not only offered the same sense of wonder and astonishment that the BBC and Acorn outings had delivered a year earlier, but even added a few original touches of its own.

Armed with nothing more than a Cobra Mk III and 100 credits, the universe of *Elite* is literally your oyster and you're given a real sense of freedom that is incomparable in other Spectrum releases. It might be a little more sluggish when compared to its BBC counterpart, but the same gripping and absorbing gameplay remained, and Torus even had the foresight to include several new missions that had never actually appeared in the BBC and Acorn originals. Ultimately though, for all its cosmetic changes, this was *Elite* through and through and it instantly received rave reviews from popular magazines such as *Crash* and *Sinclair User*.

With its sandbox gameplay, moral dilemmas – did you always play as the good guy, or occasionally go after some easy bounties? – and beautiful – if rather stark – wireframe visuals, *Elite* remains a true classic that no self-respecting gamer, Spectrum or otherwise, should go without experiencing at least once in their lives.





"R-TYPE ON THE SPECTRUM IS A THING OF BEAUTY AND IS EASILY THE BEST ARCADE CONVERSION TO GRACE THE MACHINE"

TOP 25

spectrum games

OF ALL TIME

Head Over Heels

■ **Year:** 1987

■ **Publisher:** Ocean

3 **After the arrival of *Knight Lore* in 1984, virtually every videogame publisher began jumping on the isometric bandwagon, desperate to cash in on what was becoming a rapidly popular genre. Despite many fine efforts – the majority of them usually being from Ultimate – none have ever come close to the sheer brilliance of John Ritman's utterly sublime *Head Over Heels*.**

After cutting his isometric teeth on the thoroughly enjoyable *Batman*, Ritman's next project would be far more ambitious and included more devious puzzles, many, many more screens to explore, and, in a twist that was highly original for the time, two distinctive characters for the player to control; each with their own special abilities.

Head was a large-nosed… well, head… with a pair of stubby wings that enabled him to make mighty jumps and also glide for short periods, while Heels was an adorable puppy-like creature whose huge feet allowed him to quickly move through Bernie Drummond's surreal-looking environments. Originally known as 'Foot & Mouth' the duo are not only insanely cute (no easy task when you're dealing with a limited amount of pixels), but instantly recognisable to anyone from the 8-bit era.

Initially trapped in the bowels of Blacktooth Castle, your first task is to actually escape. These early screens are not only filled with some brilliantly conceived puzzles, but also act as the perfect tutorial for both Head and Heels' skills. Of course, once you've struggled through these first 40-odd rooms and managed to escape, your adventure not only truly begins, but Ritman also plays his masterstroke by revealing that the two odd-looking fellows can be combined to create one super-being.

It's not only a brilliant touch, but also enabled Ritman to create even more devious puzzles, as you were now forced to tackle rooms in a variety of different ways, with many of the later screens requiring a considerable amount of head scratching before you could finally move forward.

Spread across a total of five huge planets (each with its own distinct themes), and populated with some truly wacky sprites – Bernie Drummond created everything from a Prince Charles-headed Dalek to staircases made out of puppies – *Head Over Heels* is an unmissable adventure that's not only filled with enough charm to sink a battleship, but proves that two heads (okay, a head and heels) really are better than one.

Chaos

■ **Year:** 1985

■ **Publisher:** Games Workshop

2 **Julian Gollop lent his brain to some of the finest strategy games to appear on the 8-bit micros. His greatest works include: *Laser Squad*, *Lords Of Chaos*, and the sublime *Rebelstar*.**

Set on the planet of Limbo, *Chaos* was a very early and deceptively deep strategy game. If you've ever wondered why Games Workshops still seem to inhabit the high streets, or considered taking that plunge into the 'strat-'o'-fear', then you should really make *Chaos* the next game you boot up and play. But be warned, set aside a quiet afternoon because it's annoyingly addictive.

Beginning with a series of questions to help you create your hero and set you on course for the wonderful world of wizard duelling, the game then gave you the keys to a messy magical melee against up to seven other wizardly foes.

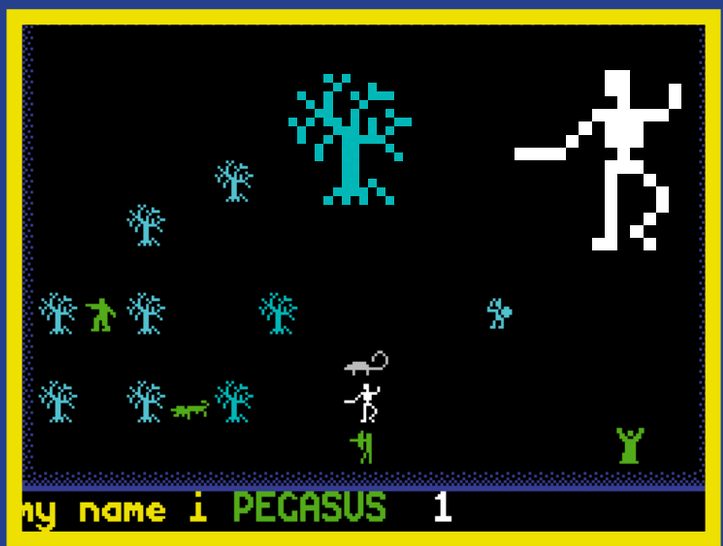
Okay, the graphics looked crude, and it wouldn't do much to impress any of your C64 and CPC chums, but its rudimentary look made getting a head around all the spells and rules of engagement more accessible.

After you had created your wizard, he would be blessed with a random collection of spells to help you vanquish your opponents.

The most innovative feature about *Chaos* was the fact that during play, being that your spells were purposefully temperamental little buggers, there was no guarantee that they would actually work.

The more potent the spell, the higher the risk of seeing it seize up on you. So while the Giant Rats were reliable, trying to persuade your Speccy to let you have access to one of *Chaos*'s bashful Golden Dragons would prove a little trickier.

To improve your odds you could cast some of the smaller spells to influence the laws of the game board and make opting for the stronger enemies less of a gamble, opening up a world of tactical possibilities.



"PLAYING A FUTURISTIC BOUNTY HUNTER, 3D DEATHCHASE HAD YOU SWERVING THROUGH FORESTS OF EVER-INCREASING DENSITY TO CHASE AND BLOW UP TWO MOTORCYCLISTS"

3D Deathchase

1

■ **Year:** 1983

■ **Publisher:** Micromega

Now if you're a tree hugger, tree surgeon or a puppet you might want to avert your eyes, because this is a game that will more than likely cause you to grab the closest chainsaw and stick it into the nearest available hunk of wood.

Yes, this game does absolutely nothing for relations between humans and trees, but tons for the Speccy, 9K and gamer dealings. Now there really is only one word to describe *3D Deathchase* and that word is: trees.

So, out of the billion or so Spectrum titles that were ever released, why should *3D Deathchase* be considered the zenith of the machine? After all, many magazines of the day weren't overly kind towards the game when it was released.

Sinclair User awarded the game a measly 60% and the oracle of Spectrum gaming *Your Sinclair*, weren't massive fans of the game either. It took Stuart Campbell to right past wrongs when he compiled and wrote the magazine's Top 100 Speccy games of all time list and reserved the number one spot for this brilliantly simple game.

Admittedly, the game is blessed with the most inanimate of enemies: trees. So yes, to some it might sound like a profoundly stupid idea in principle, and with a lot of green, blue or black – depending on whether you were on 'night patrol' – permeated with plenty of lofty orangey thick lines, it would be fair to say that it didn't really look all that fantastic neither.

We would have loved to have been in the room when Mervyn Estcourt pitched his idea to Micromega though…

"So then Mervyn, just so I'm 100 per cent clear on this. You want to make a pseudo-3D *Space Invaders* game about driving a bike through a forest. Oh, okay, so what do you have to fight? Other bikes, okay, and these bikes, they can fight back right? They can't fight back, okay, right, so where's the actual threat, where are the enemies in your game? The trees you say, as in the green leafy things outside? And these trees, you're giving them guns right?"

Playing a futuristic bounty hunter, *3D Deathchase* found you swerving through bountiful forests of ever-increasing density to chase and blow up two brightly coloured motorcyclists. Your enemies rely on astonishing driving abilities to draw you into groups of trees, with the hope that the Ents dish out some tree-hurt.

The greatest aspect about *3D Deathchase* was the sheer simplicity of the thing. The whole principle of the game was to avoid and invade. And the game occasionally threw in mothership-style bonus targets that allowed you to earn extra points.

Star Wars fans would probably find appeal from its peculiar similarity to the speeder bike chases in *Return Of The Jedi*, and wannabe Jedis would lovingly replay the scenes by booting up the game in tandem with a rather rich imagination.

The game also featured brilliantly swift scrolling and, with the trees on the later stages coming at you at breakneck speeds, an ingenious and visually fathomable difficulty curve was brought to the game. And when the game switched from day to night, the menacing dark sky would cause the pursuit to become a shade twitchier and destroying those skittish bikes that extra bit harder. It was all in your head though and, secretly, you knew it. You could never get angry at *3D Deathchase*, though. With all of the game's win/lose elements so clearly defined, unwittingly becoming one with nature was always of your own doing. A genius game, with a genius concept… quite simply: genius. *3D Deathchase*, we salute you.

THE ULTIMATE GUIDE TO...

THE LEGEND OF ZELDA

FROM THE retro GAMER ARCHIVES

Instant Expert

The Legend Of Zelda is the most non-linear adventure in the series. You can tackle the dungeons in almost any order you like, and the game can be finished without ever collecting the sword.

The Legend Of Zelda was the first NES title to sell over a million copies and went on to sell 6.5 million in total.

Though the map for *Zelda*'s third dungeon resembles a Nazi swastika, it is actually the much more innocuous manji, an ancient religious symbol used by Japanese Buddhists, which is the reverse of the infamous emblem and is common in Eastern philosophy.

Link is an unusual hero in that, in the first game and canonically throughout the series, he is left-handed. Perhaps by coincidence, the word 'links' is German for 'left'.

Complete *The Legend Of Zelda* and you can play a second quest with different dungeon layouts and item placements. If you want to skip straight to it, enter your name as 'ZELDA' at the start.

Princess Zelda is named after Zelda Fitzgerald, wife of novelist Francis Scott Fitzgerald.

When *Zelda* arrived in the US and Europe it was ported from disk to cartridge and became the first console game to include a battery to store save data.

As The Legend Of Zelda turns 35 years old, Ashley Day argues that Nintendo's seminal adventure game isn't just an important piece of history but a game that's still great to play today

You really have to hand it to Miyamoto and his band at Nintendo. To make one of the greatest and most important videogames of all time, in the shape of *Super Mario Bros,* was one thing. But to repeat the same trick just a year later, and in a completely different genre, is just incredible.

In fact, there isn't even a year between *Super Mario Bros* and *The Legend Of Zelda*. There was only five months between the Japanese release dates of each game, yet the latter represents a giant stride from the former in terms of game design. Where *Mario* was brilliantly simple, placing you at the start of a linear journey and merely asking you to move a little plumber to the right, *Zelda* offered a world of possibility by comparison.

Starting off in the middle of the vast land of Hyrule, it put you in control of a left-handed elf-like boy named Link, with three possible exits standing before him, and then… did nothing. No instructions, no dialogue, no hints. Just the promise of adventure and an invitation into the unknown. Which way should you go? Well that was entirely up to you, and that was the entire point of the game. There was an ultimate goal, of course – to collect the eight scattered pieces of the Triforce of Wisdom in order to defeat the evil Ganon and rescue the eponymous Princess Zelda – but it was the open nature of how you approached this task that really made *The Legend Of Zelda* so compelling.

It's a well-known story that Miyamoto's inspiration for *Zelda* came from his childhood memories of exploring the Japanese countryside without a map and the pleasure that he got from discovering places he had no previous knowledge of. The goal of the *Zelda* project was to capture that childlike fascination with the unknown, the sense of wonder that the world can provoke when everything around you is so new and unusual. And that project also happened to fortuitously coincide with the development of the Famicom Disk System, Nintendo's Famicom add-on that side-stepped the rising cost of ROM chips and allowed developers to create much bigger games than before.

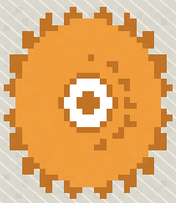
The Disk System's rewritable media also allowed for game progress to be permanently saved without the need for cumbersome passwords, and this was a crucial technological advantage that allowed Nintendo to further distinguish its console games from those of the arcades. Coin-operated arcade games were still the dominant form of videogaming in 1986 and were focused very much on short-term challenge, cyclical and repetitive gameplay, and the thrill of chasing a high score. But Nintendo wanted its games to be something different; something you played over a long period of time, returning to like a good book to enjoy an ever-evolving experience; a journey, rather than the same few seconds over and over again.

This is very much how the modern videogame can be described 35 years

Pixel Perfect

Some of Zelda's familiar characters make their debuts

» Darknut


» Digdogger

» Zola

» Link

» Lanmola

» Like Like

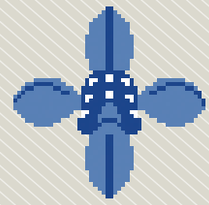
» Octoroc

» Tektike

» Peahat

» Gel

» Aquamentus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» Gleeok

» Leever

» Bubble

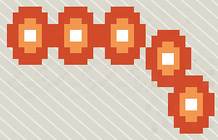
» Gohma

» Old Man

» Stalfos

» Vire

» Shopkeeper


» Moldorm

» Patra

» Moblin

» Pols Voice

» Rope

» Zol

» Wizzrobe

» Fairy

» Ghini

» Old Woman

» Gibdo

» Goriya

» Keese

» Ganon

» Magical Key

» Wall Master

» Power Bracelet

» Lynel

» Zelda

» Dodonga

» Flame

» Armos

THE ULTIMATE GUIDE TO...
The Legend Of Zelda

Critical Reception

What the gaming press thought...

"The Legend Of Zelda is a massive arcade adventure packed full of dragons, imprisoned princesses, traps and pitfalls"

- COMPUTER & VIDEO GAMES, 1987

Twin Galaxies High Scores

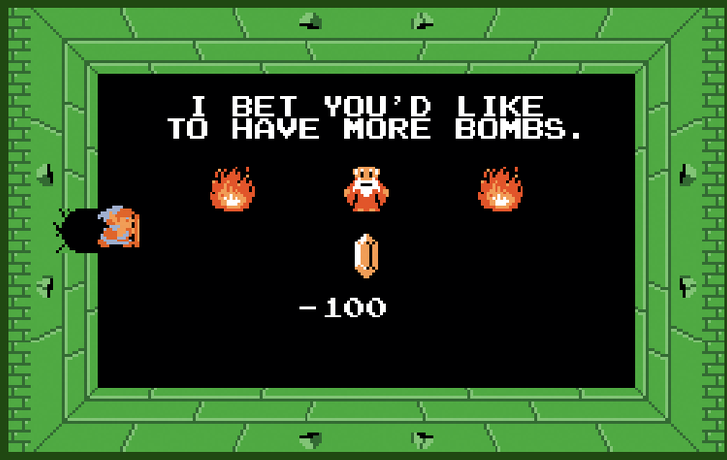
SPEED RUN (QUEST 1)
- **NAME:** RODRIGO LOPES
- **TIME:** 00:31:37

SPEED RUN (QUEST 2)
- **NAME:** RODRIGO LOPES
- **TIME:** 00:39:59

EXTREME CHALLENGE (COMPLETE GAME WITHOUT SWORD, DON'T KILL OVERWORLD ENEMIES)
- **NAME:** MARLON D MORROW
- **COMPLETION:** 100%

on, of course, but *The Legend Of Zelda* was one of the first games to truly offer that kind of deep, long-term experience. And it did it very well indeed. So many early videogames can be credited as the first to do one thing or another, but *Zelda* did it all, establishing the rules of the modern adventure game and in such style that, alongside its sequels, it remains brilliantly playable a quarter of a century later, while Nintendo's competitors are still playing catch-up.

It's not just the tantalising nature of Hyrule's open world that makes *Zelda* so appealing. It's the way Link's ever-increasing inventory and abilities open up new routes through that world, ensuring that it rewards progress with a steady stream of surprises and discoveries right up to the end. There's the contrast between the freedom of the overworld and the tightly focused structure of the dungeons beneath the ground. There's the way each weapon Link acquires has more than one obvious use, forcing you to experiment and be creative with the way you play. And, of course, there's the wealth of secrets that permeate the world, not just rewarding the player but encouraging them to dig deeper, play harder and uncover hidden treasures that make you feel like the best player in the world. It's a deeply personal feature that makes you feel special for finding those secrets and personalises the experience, even though those secrets are, in reality, accessible to everyone.



» [NES] More high explosives can never be a bad thing.

With 35 years under its belt, the *Zelda* series has since gone from strength to strength, and many people have a favourite entry in the series that isn't the first one. *A Link To The Past*, *Link's Awakening*, *Ocarina Of Time* and *Majora's Mask* could all legitimately lay claim to the title of Greatest *Zelda*, but there's something pure about that first game that sets it apart from its successors. Right from *Zelda II* onward, the series began to change. It still retained the core features of an overworld, a series of dungeons and an expanding bag of tricks, but it also lost something along the way. As the series has become increasingly preoccupied with telling a story, you could argue that it has also limited itself, weighing its opening moments down with unnecessary dialogue and lengthy tutorials that actually distance you from Link instead of doing the opposite.

The Legend Of Zelda's real brilliance is that it has the confidence to just drop you into its world and leaves you to explore for yourself, experimenting with its mysteries and discovering secrets without any real hand-holding. Instead of simply telling you a story, it allows you to live the story; its events are driven by your decisions and actions. It feels unique, it rewards those who jump in at the deep end to go see what they can find, and it's a quality that the *Zelda* series would do well to recapture.

Power-ups

Some of The Legend Of Zelda's pick-ups have endured throughout the series' history, while it never quite happened for others...

»Bait
This meat is bought from a shop and used to feed any Goriyas that block your path.

»Bombs
The bomb can be used to hurt just about any enemy but can also be used to open secret entrances.

»Boomerang
The boomerang has two distinct uses. One violent to damage enemies; the other practical, as it can retrieve distant objects.

»Bow
The bow is the only thing that can kill Ganon, at least once you've acquired the silver arrows for it.

»Candle
This can be used to light your way, but it can also be used to burn bushes, sometimes revealing secrets.

»Ladder
This item allows you to cross small sections of river to take short cuts and is essential for some dungeons.

»Magic Book
An optional item that upgrades the wand so that it can shoot fireballs, making candles redundant.

»Magic Wand
It's a wand! What more do we have to tell you? It uses your magic energy to shoot beams.

»Potions
Potions come in two varieties: blue and red. Blue restores some of your life while the red replenishes it all.

»Raft
Allows Link to get around the waterways of Hyrule. He can embark or disembark the raft at any dock.

»Rings
These, much like every other magic item, can be found in two colours. Each increases Link's strength.

»Shield
The wooden shield just repels ordinary attacks. The magic shield, however, can block fireballs.

»Swords
There are three swords – Wooden, White and Magical – each one more powerful than the last.

»Whistle
A single-use item that is essential for beating Digdogger, the boss of the fifth dungeon.

Memorable Moments

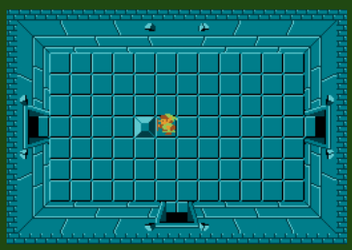
We present the best bits of the best NES game Nintendo ever made

Signature tune

The now-iconic *Zelda* theme slowly plays and builds up speed as a waterfall pours down the title screen. Koji Kondo's composition is yet another classic, leading to his involvement in every game in the series up until *Ocarina Of Time*.

Good advice

One of the few pieces of dialogue is also the most memorable. Though you can play the whole game without the sword, the old man's advice is right. You'll do much better with it, and what's a *Zelda* game without a sword?

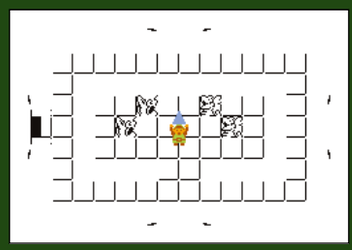


Secret exit

Finding secrets is one of *Zelda*'s greatest pleasures, not to mention one of its inspirations, and here's one of the earliest. A door without a keyhole is opened by pushing a seemingly ordinary block to the left.

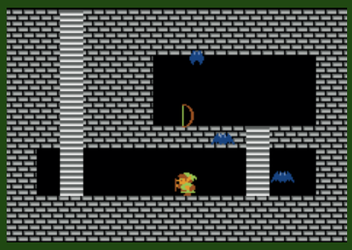
Fairy godmother

Find an enclosed pool and a fairy will pop out and rejuvenate Link's health with a swirl of hearts. It's another feature that has cropped up time and again through the series, with the fairies' abilities and applications expanding.



Triforce get!

Link finds his first piece of the Triforce and holds it above his head in a way that has now become an identifiable characteristic of the little elf boy. The Triforces of Wisdom and Power appear in the original, with Courage debuting in the next.



Side story

Some dungeon screens switch perspective to a side view, a trick that was adopted wholesale for *Zelda II: The Adventure Of Link* and would return for some brief sequences in the Game Boy's *Link's Awakening*.

Hard to swallow

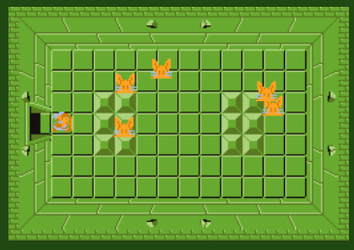
The brilliant Dodongo boss is defeated by getting him to eat and swallow a bomb, causing him some nasty indigestion when it explodes in his belly. A similar boss, King Dodongo, became an iconic sequence in *Ocarina Of Time*.

Hidden stairs

Another great secret. Touch a statue and it will come to life to attack you. Some statues stand over stairways that lead to secret underground rooms, tempting players to engage them in combat in the hope of some reward.

Boss hog

The final showdown with Ganon reveals him to be some kind of grotesque demon pig, much more monstrous than the human reinterpretation in *Ocarina Of Time*. Recent games tend to give him a hideous second form.



Loud noises!

In the Japanese release of *Zelda* you can shout into the Famicom microphone to hurt Pols Voice enemies. But you can't in the NES release. So in Japan it's a memorable moment. Over here it's barely even a regular moment.

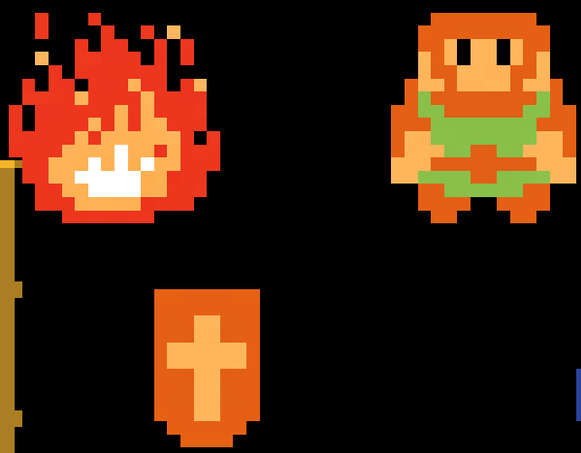
Feeding time

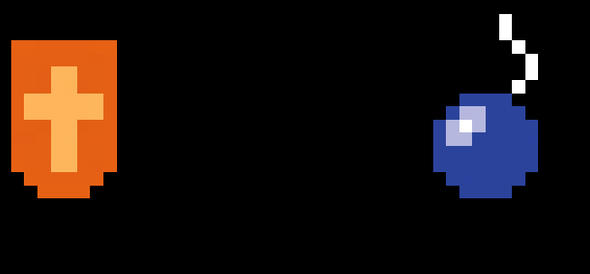
This Goriya isn't having a moan; it's actually his stomach rumbling. Feed him the meat and he'll let you pass. The first time a *Zelda* enemy defies expectations of simply being sword fodder and not the last.

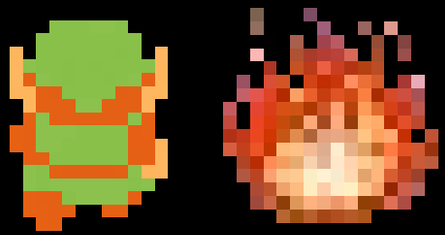
Zelda's ending is fairly typical for adventure games, until it reveals that there's a whole new quest to play through

The Versions Of Zelda

There have been many more versions of the original Legend Of Zelda than you probably think. Here's every one and the differences between them







PROTOTYPE (1985, estimated)

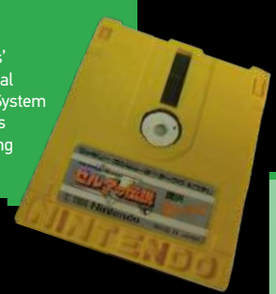
A prototype version of the original Famicom Disk game, only recently discovered in late 2010. The prototype differs from the real thing in several ways, most notably that it's a lot easier thanks to a higher distribution of rupees and slightly different enemy arrangements. The disk image is available to download from **www.lostlevels.org**.

FAMICOM DISK SYSTEM (1986)

The first official release of the game was titled *The Hyrule Fantasy: Zelda No Densetsu* and was a launch title for the Famicom Disk System. This release used the extra capabilities in the FDS to play sounds not present in the NES cartridge version. It also used the microphone built in to the second controller of the Famicom. Blowing into it was a secret way to kill the sound-sensitive Pols Voice enemy, which was technically impossible on the standard NES.

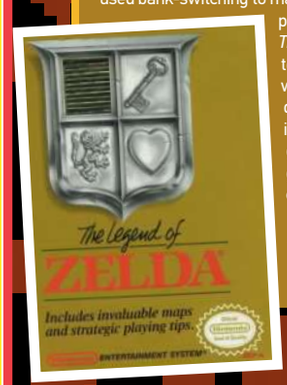
ZELDA NO DENSETSU: TEIKYOU CHARUMERA (1986)

Made to promote Myojo Foods' charumera noodles, this special release of the Famicom Disk System game is identified by a different label design and is considered a rare Famicom collector's item, selling for around £180 in Japanese retro stores.



NINTENDO ENTERTAINMENT SYSTEM (1987)

As well as translating the game into English, the US and European release of *The Legend Of Zelda* was the first to arrive on cartridge. Though the Famicom Disk System had been introduced to reduce the cost of ROMs, the add-on never made it outside Japan so Nintendo used a new type of chip. The MMC1 (Memory Management Controller) used bank-switching to make bigger games possible and allowed *The Legend Of Zelda* to be released worldwide. And boy did Nintendo milk it, releasing the game on a special gold cartridge and cutting a window into the packaging so that everyone could see for themselves. Classy.



FAMICOM CARTRIDGE (1994)

Zelda eventually got its Japanese cartridge release in 1994, eight years after the disk release and a staggering eleven years after the launch of the Famicom console. The game is virtually the same except that it's renamed *Zelda No Densetsu 1*, given that the second, third and even fourth *Zelda* games had been released by 1994.

BS ZELDA NO DENSETSU (1995)

A 16-bit remake of the original *Zelda*, broadcast on the Super Famicom's Satellaview add-on between August 1995 and January 1997. As well as the advanced graphics, *BS Zelda No Densetsu* also made use of the hardware's SoundLink feature to provide a live narration throughout the broadcast quest.

THE ULTIMATE GUIDE TO: THE LEGEND OF ZELDA

BS ZELDA NO DENSETSU MAP 2 (1996)

Basically the same game but based on the second quest from *The Legend Of Zelda*, this *BS Zelda* is much more elusive and was broadcast one time only in March 1996.

THE LEGEND OF ZELDA: COLLECTOR'S EDITION (2003)

A promotional GameCube disc that was never officially sold but given away to Nintendo customers to promote the upcoming release of *The Wind Waker*. The disc includes emulated versions of *Zelda II*, *Ocarina Of Time*, *Majora's Mask* and, of course, *The Legend Of Zelda*, which featured a new translation that corrected some of the 'Engrish' in the original NES version, as well as changing the name of Gannon to the more canonical Ganon.

VIRTUAL CONSOLE (2006)

The Legend Of Zelda was one of the first big Nintendo games to be distributed on the Wii's Virtual Console service. Sadly, the European version ran in 50Hz as part of Nintendo's ludicrous policy of remaining faithful to the version each territory remembers, despite the fact that it used the updated 2003 translation.

GAME BOY COLOR REMAKE (2000, cancelled)

In 1999, Yoshi Okamoto of Capcom negotiated a deal to develop six new *Zelda* titles for the Game Boy Color. Flagship worked on the remake for a year but encountered a number of problems. One was that the GBC's resolution was too different to that of the NES, meaning the game had to be redrawn to fit the more narrow screen, and another was that the team wanted to rebalance the game to make it less difficult. The remake was eventually scrapped in 2000 as Flagship changed direction. At Miyamoto's request, the studio started work on three interlinked games in the 'Triforce' series, named *Mystical Seed Of Wisdom*, *Mystical Seed Of Power* and *Mystical Seed Of Courage*. This idea proved too ambitious, however, and had to be downgraded to the two games that were eventually released: *Oracle Of Ages* and *Oracle Of Seasons*. The latter evolved directly from *Mystical Seed Of Power*, which was developed off the back of the remake project, and you can still find similarities between *Seasons* and *The Legend Of Zelda* today.

THE LEGEND OF ZELDA: MASTERPIECE DEMO (2008)

Nintendo's all-star Wii fighting game *Super Smash Bros Brawl* contains a Vault section that celebrates the history of the playable characters that appear in the game, and the Vault includes a selection of Masterpieces – timed demos of old games so that you can go hands-on with history yourself. With five *Zelda* characters, three of them different versions of Link, appearing in *Brawl*, it's only natural that *The Legend Of Zelda* appears on the disc.

ANIMAL CROSSING (2001)

Both the Nintendo 64 and GameCube editions of *Animal Crossing* allowed players to enjoy a series of NES games in their virtual homes. *The Legend Of Zelda* was one of those games although, weirdly, it was buried in the code and couldn't be accessed without using cheat devices.

NES CLASSICS: THE LEGEND OF ZELDA (2004)

In 2004 Nintendo released a series of Game Boy Advance games called Famicom Minis, which re-created favourite Famicom games on yellow cartridges that came packaged in tiny, cute boxes. When the series came to Europe and America, it was re-envisioned to evoke nostalgia for the NES and sadly lost the cute boxes, but we did get some cool NES games. This version was reformatted for the GBA's wide screen and featured the same new translation as the GameCube remake.

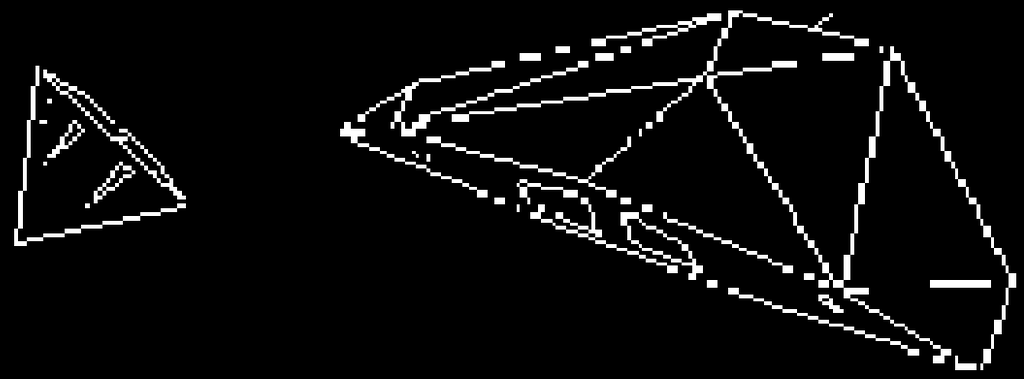
3D CLASSICS EDITION (201X)

When the 3DS was first shown off at E3 2010, one of the tech demos was a series of 'Classic Games' redrawn to take advantage of the 3D display, and one of the games in that showreel was *The Legend Of Zelda*. Nintendo has since confirmed plans to sell downloadable '3D Classics' through the 3DS's eShop service, starting with *3D Excitebike*. *The Legend Of Zelda* hasn't officially been confirmed, but given that *Ocarina Of Time* has been remade for the system, and that Shigeru Miyamoto has expressed interest in giving similar treatment to *A Link To The Past*, it's easy to assume that the original *Zelda* will appear in 3D pretty soon.

THE HISTORY OF...

ELITE

IT'S ONE OF THE MOST INFLUENTIAL FRANCHISES OF ALL TIME; CAUSED A RIFT BETWEEN ITS TWO CREATORS AND BECAME SO POPULAR THAT NEARLY EVERYONE WHO OWNED AN ACORN BBC OWNED A COPY. BUT HOW DID ELITE BECOME SUCH AN ENDURING CLASSIC? DARRAN JONES SPEAKS TO CO-CREATORS DAVID BRABEN AND IAN BELL TO FIND THE ANSWERS



Space is a lot of things. To James T Kirk it was the final frontier, a place where no man had gone before; Ridley Scott saw it as a tomb where no one could hear you scream; while for others it was an annoying and distinctly average Liverpudlian indie band from the mid-Nineties. For David Braben and Ian Bell, two young 19 year olds from Jesus College, Cambridge, space was a place where anything was potentially possible and, in 1984, they shared those possibilities with hundreds of thousands of excited gamers.

Weighing in at a hefty £17 and sporting a dictionary-sized manual, Braben and Bell's space-trading epic was certainly not for the faint-hearted. That 65-page entry to the world of *Elite* was an incredibly dense read, and covered everything from the universe's political profile, to its many alien races. Indeed, such was the intensity of Braben and Bell's vision that it even mentioned rules, regulations and details that had absolutely no bearing on *Elite*'s actual gameplay. When dealing with any alien life forms, for example, the following three rules should *always* be followed: Learn the body language of the alien race, cover up your body scent and beware of Carapace concealed weapons. These rules and many others had absolutely no relevance in the actual world of *Elite* as far as the player was concerned, and yet they helped to paint a universe that was incredibly rich in atmosphere. BioWare's *Mass Effect* was recently praised for its in-game profiles that helped give the player a greater understanding of the worlds he was exploring, and yet a humble 8-bit release managed the same thing – some would argue, to greater effect – 23 years earlier.

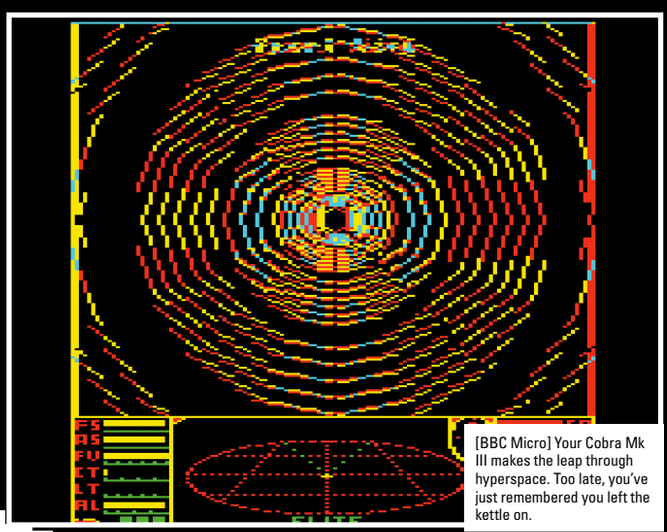
That's the real strength and beauty of *Elite* though. It managed to offer gamers possibilities and options and created a realistic environment that felt unbelievably fresh and exciting back in 1984. Even today though, *Elite* remains an absolute joy to play. Sure the dynamic wire-framed ships that wowed so many gamers when they first saw them are starting to look a little rough around the edges, and the trading that turned us all into wannabe Gordon Gekkos now seems rather basic and antique, but that matters not one jot once you actually take off in your Cobra Mk III and explore *Elite*'s beautifully realised universe. It must be incredibly satisfying for Braben and Bell to know that their creation remains as fun to play as it did in 1984, and it's simply amazing to think that this entire universe could fit into a paltry 32K. That's only 4K less than what we've currently written!

"I first received an Acorn Atom back before I went to University," recalls Braben about the machine that would eventually help shape his future career. Put together by Braben in 1981 – back then computers came in kits – after he received it as a Christmas present, when the Atom was finally constructed and switched on it simply said,

BASIC

>

It was all the prompting Braben needed and he quickly began to create variations of classic arcade games, with his most notable effort being based on *Missile Command* and known as *Nuclear War*. "I loaded from tape this picture I had drawn of the world on my television with a



[BBC Micro] Your Cobra Mk III makes the leap through hyperspace. Too late, you've just remembered you left the kettle on.

ELITE A-Z

A is for Adder – A single-missile-carrying craft that was manufactured by the Outworld Workshop.

B is for David Braben and Ian Bell – The two minds behind the original *Elite*. Braben went on to create *Frontier: Elite II* and *Frontier: First Encounters*.

C is for Cobra Mk III – This is the ship that is first displayed when *Elite* loads up and is also the craft you pilot.

D is for Docking – Braben and Bell had both been awed by *2001: A Space Odyssey*'s docking sequence and wanted something similar in *Elite*.

E is for Energy Bomb – This is a devastating weapon that can only be used once and is available from a planet with a Tech Level of seven or higher.

F is for Firebird – Because Braben and Bell had not sold future conversion rights to Acornsoft, Firebird ended up being the lucky publisher.

G is for Gametek – The company that published *Frontier* and *First Encounters* and was involved in a three-year lawsuit with David Braben.

H is for (Robert) Holdstock – Author of *The Dark Wheel* novella that was included in the original *Elite* boxset.

I is for Illuminatus – Spoof April Fool's joke about a videogame that was very similar to *Elite*.

J is for Jesus College – University of Cambridge where Braben and Bell first met.

K is for Konami – Was to be the original publisher of *Frontier* until it closed down its offices and sold to Gametek.

L is for Lawsuit – David Braben was unhappy with the way *First Encounters* was handled by Gametek and launched a lawsuit. He won it three years later.

M is for Missions – While early versions of *Elite* only contained a few missions, *Frontier* boasted over 70 different ones.

N is for Newtonian Mechanics – Both *Frontier* and *First Encounters* featured realistic physics instead of the more arcadey controls of *Elite*.

O is for Oolite – Excellent homage to *Elite* that started off life as an OpenGL Mac OS X title. It was created by Giles Williams.

P is for Procedural Generation – A way of generating algorithmically on the fly so that precious memory isn't needlessly wasted.

Q is for Questions – Ian Bell has been asked so many questions about *Elite* that he now hosts the most popular ones on his website, www.iancgbell.clara.net.

R is for Reptiles – Many of the spaceships in *Elite* are named after different reptiles. We were going to ask why this was but we forgot to. Doh!

S is for (Chris) Sawyer – Creator of *RollerCoaster Tycoon*. He also coded *Frontier: Elite II* for the PC.

T is for Thorn EMI – The publisher that amazingly turned down *Elite* as it felt it needed a score and extra lives.

U is for Universe – The *Elite* universe contains eight galaxies, each of which contains a further 256 planets.

V is for Viper – Extremely quick spacecraft that's used by the GalCop Police Force.

W is for Wireframe – *Elite* was one of the first home computer titles to use wireframe 3D graphics.

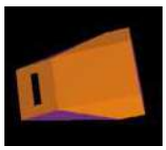
X is for X-Rated words – Braben and Bell had to check the procedurally generated galaxy didn't contain any naughty words. They didn't find any really bad words, but they did find 'arse'.

Y is for Yellow – The colour of *Elite*'s symbol. We're sure there's a better word for the letter Y but we can't think of one.

Z is for Zieman – Creates the deflective shields that are found on the Cobra Mk III.

ROGUES' GALLERY

ALTHOUGH YOU CAN ONLY USE THE COBRA MK III, THERE ARE PLENTY OF DIFFERENT SHIPS TO BE FOUND IN THE ORIGINAL ELITE. HERE'S A QUICK GUIDE TO THE ONES THAT YOU'LL BE ENCOUNTERING ON YOUR TRAVELS



ADDER
DIMENSIONS
45/8/30 ft
CARGO CAPACITY
2 TC (Tonne Canisters)
ARMAMENTS
Ingram 1928 AZ Beam Laser; Geret Starseeker missile
MAXIMUM VELOCITY
0.24 LM (Light Mach)
INSERVICE DATE
2914 AD (Outworld Workshop)
MANOEUVRABILITY
CF 4 (Curve Factor)
CREW NUMBER
2
DRIVE MOTORS
AM 18 bi Thrust
HULL STRESS FACTOR
T Ko 28
HYPERSPACE CAPABILITY
Yes

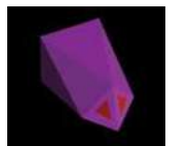
ANACONDA
DIMENSIONS
170/60/75 ft
CARGO CAPACITY
750 TC
ARMAMENTS
Front-Fire Hassoni HiRad Pulse Laser; ColtMaster Starlasers; Geret Starseeker Missiles
MAXIMUM VELOCITY
0.14 LM
INSERVICE DATE
2856 AD (RimLiner Galactic)
MANOEUVRABILITY
CF 3
CREW NUMBER
40-72
DRIVE MOTORS
V & K 32.24 Ergmasters, with under-and-over firing tubes
HULL STRESS FACTOR
T(ensmann) Ji57 C-Holding Z22-28
HYPERSPACE CAPABILITY
Yes

ASP MK II
DIMENSIONS
70/20/65 ft
CARGO CAPACITY
None
ARMAMENTS
Hassoni-Kruger Burst Laser; Geret Starseeker missile
MAXIMUM VELOCITY
0.40 LM
INSERVICE DATE
2878 AD (Galcop Workshops)
MANOEUVRABILITY
CF 4
CREW NUMBER
2
DRIVE MOTORS
Voltaire Whiplash HZ Pulsedrive
HULL STRESS FACTOR
TT16
HYPERSPACE CAPABILITY
Yes

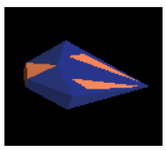
BOA CLASS CRUISER
DIMENSIONS
115/60/65 ft
CARGO CAPACITY
125 TC
ARMAMENTS
Ergon Laser system; Standard JK Pulse laser; IFS Seek & Hunt missiles
MAXIMUM VELOCITY
0.24 LM
INSERVICE DATE
3017 AD (Gerege Federation Space Works)
MANOEUVRABILITY
CF 4
CREW NUMBER
15-28
DRIVE MOTORS
4 C40KV Ames Drive motors; Seeklight Thrust Systems
HULL STRESS FACTOR
T (ensmann) Yo20 C-Holding K21-31
HYPERSPACE CAPABILITY
Yes

COBRA MK I
DIMENSIONS
55/15/70 ft
CARGO CAPACITY
10 TC
ARMAMENTS
Hassoni Variscan laser system and early Lance & Ferman missile system
MAXIMUM VELOCITY
0.26 LM
INSERVICE DATE
2855 AD (Paynou, Prossett and Salem)
MANOEUVRABILITY
CF 3
CREW NUMBER
1
DRIVE MOTORS
Prossett Drive
HULL STRESS FACTOR
T Ji 18
HYPERSPACE CAPABILITY
Yes

COBRA MK III
DIMENSIONS
65/30/130 ft
CARGO CAPACITY
20 TC
ARMAMENTS
Ingram laser system; Lance & Ferman Seek & Kill missile system
MAXIMUM VELOCITY
0.30 LM
INSERVICE DATE
3100 AD (Cowell & MgRath Shipyards, Lave)
MANOEUVRABILITY
CF 8
CREW NUMBER
1 or 2
DRIVE MOTORS
Kruger 'Lightfast' motors Irrikan ThruSpace
HULL STRESS FACTOR
T Ji 18
C-Holding M18
HYPERSPACE CAPABILITY
Yes



ORBIT SHUTTLES
DIMENSIONS
35/20/20 ft
CARGO CAPACITY
60 TC
ARMAMENTS
None
MAXIMUM VELOCITY
0.08 LM
INSERVICE DATE
2856 AD (Saud-Kruger Astro Design)
MANOEUVRABILITY
CF 4
CREW NUMBER
6
DRIVE MOTORS
V & K 20.20 StarMat drive
HULL STRESS FACTOR
T Ko 28
HYPERSPACE CAPABILITY
No

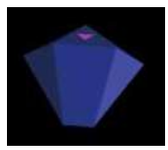


FER-DE-LANCE
DIMENSIONS
85/20/45 ft
CARGO CAPACITY
2 TC
ARMAMENTS
Ergan Laser System; IFS Seek & Hunt missiles
MAXIMUM VELOCITY
0.30 LM
INSERVICE DATE
3100 AD (Zorgon Petterson)
MANOEUVRABILITY
CF 5
CREW NUMBER
12
DRIVE MOTORS
Titronix Intersun Ionic for LT
HULL STRESS FACTOR
T Ji 10
HYPERSPACE CAPABILITY
Yes

GECKO
DIMENSIONS
12/40/65 ft
CARGO CAPACITY
3 TC
ARMAMENTS
Ingram 1919 A4 laser; LM Homing missile
MAXIMUM VELOCITY
0.30 LM
INSERVICE DATE
2852 AD (Ace & Faber Hullworks, Lerelace)
MANOEUVRABILITY
CF7
CREW NUMBER
1 or 2
DRIVE MOTORS
BreamPulse Light XL
HULL STRESS FACTOR
T to 48-94
C-Holding JZ20
HYPERSPACE CAPABILITY
N/A

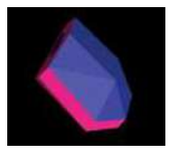
KRAIT
DIMENSIONS
80/20/90 ft
CARGO CAPACITY
10 TC
ARMAMENTS
Ergon laser system
MAXIMUM VELOCITY
0.30 LM
INSERVICE DATE
3027 AD (deLacy ShipWorks, ININES)
MANOEUVRABILITY
CF 8
CREW NUMBER
1
DRIVE MOTORS
deLacy Spinlonic ZX 14
HULL STRESS FACTOR
C-Holding A20-B4
HYPERSPACE CAPABILITY
No

MAMBA
DIMENSIONS
55/12/65 ft
CARGO CAPACITY
10 TC
ARMAMENTS
Ergon laser
MAXIMUM VELOCITY
0.32 LM
INSERVICE DATE
3110 AD (Reorte Ship Federation)
MANOEUVRABILITY
CF 9
CREW NUMBER
1 Or 2
DRIVE MOTORS
Seeklight HV Thrust
HULL STRESS FACTOR
TKi 10
C-Holding B100+
HYPERSPACE CAPABILITY
No



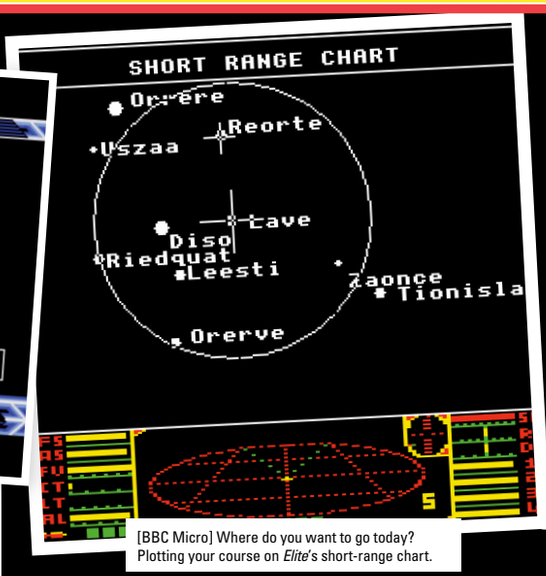
MORAY STAR BOAT
DIMENSIONS
60/25/60 ft
CARGO CAPACITY
7 TC
ARMAMENTS
Geret Starseeker missile system
MAXIMUM VELOCITY
0.25 LM
INSERVICE DATE
3028 AD
MANOEUVRABILITY
CF 4
CREW NUMBER
6
DRIVE MOTORS
Turbulen Quark Re-charger Mode 1287
HULL STRESS FACTOR
T Ko 24
HYPERSPACE CAPABILITY
Yes

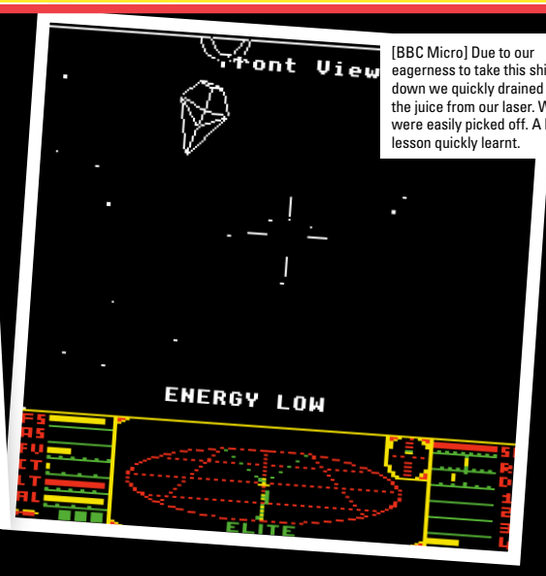
PYTHON
DIMENSIONS
130/40/80 ft
CARGO CAPACITY
100 TC
ARMAMENTS
Volt-Variscan Pulse lasers
MAXIMUM VELOCITY
0.20 LM
INSERVICE DATE
2700 AD (Whatt and Pritney ShipConstruct)
MANOEUVRABILITY
CF 3
CREW NUMBER
20-30
DRIVE MOTORS
4 C40K V Ames Drive Exlon 76NN Model
HULL STRESS FACTOR
T(ensman) YO 20
C-Holding K21-31
HYPERSPACE CAPABILITY
Yes



TRANSPORTER
DIMENSIONS
35/10/30 ft
CARGO CAPACITY
N/A
ARMAMENTS
N/A
MAXIMUM VELOCITY
N/A
INSERVICE DATE
Unknown, but probably pre-2500 AD. Known prototype built on SpaceLink Shipyards, Mars orbit (Old Earth)
MANOEUVRABILITY
N/A
CREW NUMBER
N/A
DRIVE MOTORS
N/A
HULL STRESS FACTOR
N/A
HYPERSPACE CAPABILITY
N/A

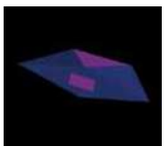
[Amiga] When the Amiga version was finally reviewed in *Zzap!64* it got a stunning 98% (the same score we gave Jeff Minter's *Space Giraffe*). The Amiga version was good, but was it that good?





[BBC Micro] Due to our eagerness to take this ship down we quickly drained all the juice from our laser. We were easily picked off. A harsh lesson quickly learnt.

[BBC Micro] Where do you want to go today? Plotting your course on *Elite*'s short-range chart.



SIDEWINDER SCOUT SHIP
DIMENSIONS
35/15/65 ft
CARGO CAPACITY
None
ARMAMENTS
Dual 22-18 lasers; Seeker missiles
MAXIMUM VELOCITY
0.37 LM
INSERVICE DATE
2982 AD (Onrira Orbital/ spalder & Starblaze)
MANOEUVRABILITY
CF 9
CREW NUMBER
1
DRIVE MOTORS
deLacy Spin Ionic MV
HULL STRESS FACTOR
Not available; C-Holding C50
HYPERSPACE CAPABILITY
No

THARGOID INVASION SHIPS
DIMENSIONS
180/40/180 ft
CARGO CAPACITY
N/A
ARMAMENTS
Widely varying; Mountings available for most systems
MAXIMUM VELOCITY
0.20 LM
INSERVICE DATE
Uncertain
MANOEUVRABILITY
CF 6
CREW NUMBER
150
DRIVE MOTORS
Thargoid invention
HULL STRESS FACTOR
Uncertain
HYPERSPACE CAPABILITY
Yes

VIPER (POLICE SHIP)
DIMENSIONS
55/80/50 ft
CARGO CAPACITY
Zero
ARMAMENTS
Ingram MegaBlast Pulse laser; Seeker missiles
MAXIMUM VELOCITY
0.32 LM
INSERVICE DATE
2762 AD (Faulcon Manspace, Reorte)
MANOEUVRABILITY
CF 7.4
CREW NUMBER
1 (up to 10)
DRIVE MOTORS
deLacy Super Thrust VC10
HULL STRESS FACTOR
Varies
HYPERSPACE CAPABILITY
No

WORM CLASS LANDING CRAFT
DIMENSIONS
32/12/35 ft
CARGO CAPACITY
None
ARMAMENTS
Ingram Pulse laser
MAXIMUM VELOCITY
0.23 LM
INSERVICE DATE
3101 AD
MANOEUVRABILITY
CF 6
CREW NUMBER
2
DRIVE MOTORS
Seeklight HV Thrust
HULL STRESS FACTOR
T Ki 10
HYPERSPACE CAPABILITY
No

Chinagraph pencil and followed this up by drawing in all the pixels," he recalls. "The idea of the game was that you played either Russia or America and you had to keep firing missiles across at each other in this big parabolic path in order to destroy the other guy's city. The score was based on the number of deaths on the other side so it wasn't terribly politically correct, but that's how it all started."

While *Nuclear War* never received a retail release, it did enable Braben to better understand the working intricacies of assembly language, which was far faster to use than BASIC and would eventually help to greatly speed up the progress of *Elite*.

Once he had fully grasped assembly language, Braben continued to muck around with various games and programs until he stumbled on something that would change his future forever. "One of the first things I programmed was an expanding star field," says Braben. "I found the 3D effects to be really quite amazing." Braben was so impressed with his creation that he quickly began to formulate a game that would eventually become the unreleased *Fighter*. "I put a spaceship in the environment and it felt okay. You shot one ship, then you shot another, then you shot another but there was no real sense of progression."

While Braben was working on *Fighter* and preparing to join Cambridge's Jesus College, another young coder was hard at work on his own space odyssey. Ian Bell was another Atom owner, and like Braben he was fascinated by the opportunities that creating games offered him. Unable to initially afford the Acorn's game pack because all his savings had gone on paying for his £120 Atom, Bell happily worked on his own creations, with his first successful effort being a translation of the popular board game *Othello*. Once he could finally afford the game pack he quickly discovered that they weren't a patch on his own creations and continued to mess around with his Atom's innards. Like Braben, Bell quickly uncovered the secrets to the Holy Grail that was assembly language and, coincidentally, he also created his own 3D space routine that would eventually morph into *Freefall*, a game he began to work on for Acornsoft. But why was Bell so intrigued with the Atom when other machines were available? "Because it was quite simply the best home microcomputer at the time," he explains.

Upon attending Jesus College, Braben and Bell quickly discovered that they shared a great many interests and that they were both working on similar home projects. "We got chatting about our space games and how demotivating it was that there was no way of regulating progression within the game," recalls Braben about one of their early conversations.

Luckily for Braben and Bell those early talks proved to be incredibly fruitful and planted the seeds that would eventually form into *Elite*. "We started to come up with all sorts of ways [to enhance progression] like 'you could buy new parts for your spaceship', 'but where would the money come from?', 'well, how about trading?'" continues Braben. "Our only real concern was that we were afraid it might be seen as very boring."

SO NEAR, YET SO FAR

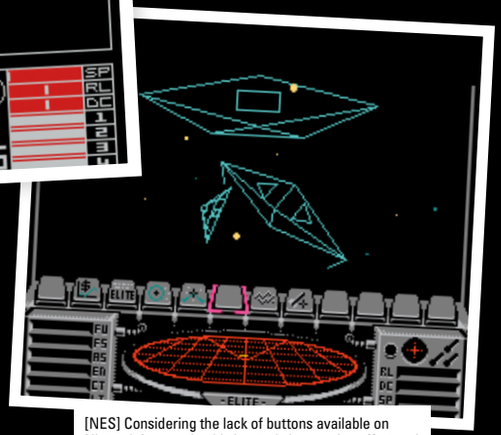
THE HIGHEST FORM OF FLATTERY?

When you have a game that's as ground-breaking as *Elite*, it's inevitable that other developers will want to jump on the bandwagon and Braben and Bell's opus soon inspired a host of similar games and out-and-out clones. One such example was Gremlin's *FOFT* (*Federation Of Free Traders*) for the Amiga and Atari ST, which wasn't so much inspired by *Elite*, but ripped it off wholesale. "It was a complete rip-off, you can't really say any more than that," begins Braben. "I guess you could see it as an honour. For example, the Electronic Arts game *Privateer* had many elements of *Elite* in it, but they at least dealt with it in a very different way. When *Federation* came out it was just blatantly the same game and it annoyed me." Fortunately, there were a great many games out there that were prepared to try to forge their own paths, although interestingly, they've never quite managed to capture the same atmosphere. "I'm really not sure," begins Bell when we ask him why later games have never been deemed equal to *Elite*. "It was a big advance over everything else at the time. It's much harder to do that now." Braben feels differently. "To an extent they capture the atmosphere of *Elite* but they never really embrace what the concept of *Elite* is. They certainly capture elements of it, but never the whole thing. I think they do capture the wonder though."

While *Federation Of Free Traders* (right) was seen as little more than an *Elite* rip-off, CCP's *Eve Online* (right, above) is brave enough to go off in its own direction.

THE HISTORY OF... ELITE

[Spectrum] A surprisingly solid conversion, if a little slow. Like the other Z80 games the conversion was handled by Torus.



[NES] Considering the lack of buttons available on Nintendo's console, this is a truly impressive effort and features great graphics and a solid control system.

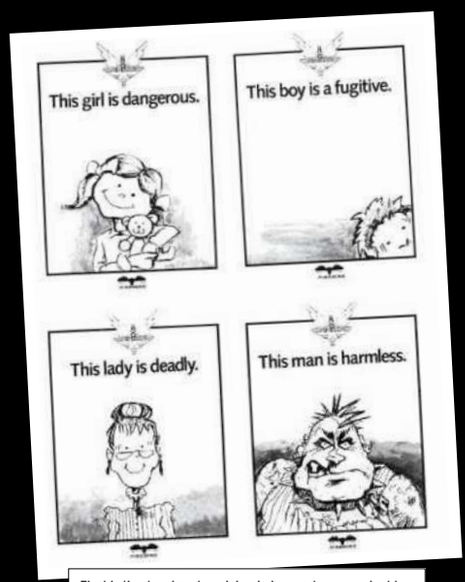
Nevertheless, despite early reservations about how their future project would be perceived by others Braben and Bell decided to join forces, with the inspiration for *Elite* coming from a variety of different sources. Both undergraduates loved the docking sequence of *2001: A Space Odyssey*, while the role-playing *Traveller* featured many of the elements that would appear in the final game. It also happens to be the origin of Commander Jameson, the default pilot of *Elite*'s Cobra Mk III, should you choose to not create your own. ilms and TV shows that provided inspiration included *Battlestar Galactica*, *The Hitchhiker's Guide To The Galaxy* and a certain film by George Lucas called *Star Wars*. "Although *Elite* is set in a much bleaker world than *Star Wars*, the concept of flying to completely different places was very attractive," recalls Braben. Books also proved to be a valuable source of information, especially for Bell who cites the works of such famous authors as Arthur C Clarke, Isaac Asimov, Larry Niven and Jerry Pournelle as major sources of inspiration. Then, of course, there was the majestic *Star Raiders*, an Atari 8-bit release by Doug Neubauer that was released in 1979.

One thing we were interested in knowing was how much of the two separate projects ended up appearing in *Elite*. According to Bell, few elements from *Freefall* ended up in the final product. "None really," he begins. "The truncated cube space station was reminiscent of the shape of the 2D *Freefall* space station so I called the *Elite* stations Coriolis Class after the *Freefall* space station, and Thargoid echoed the Batoids and Waspoids, but they were fundamentally disconnected games."

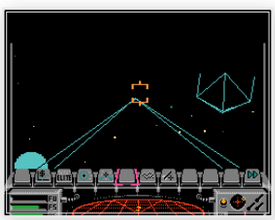
With their heads brimming with new ideas and possibilities, it was time to ship their idea around and see if anyone was as excited about their project as they were. Did they have any actual problems finding a publisher? "Yes we did," is Braben's somewhat expected reply. "Before I went to university I had a brief contract with a company called Thorn EMI and they offered me a job, but that would have meant me not going to university so I didn't take it. So later we approached Thorn EMI with a running, fairly final version of *Elite* – ie the trade, flight, dock had all been completed. And they said, "This is all very interesting, very technical, but for us to go with this, for us to actually publish it we would need a game with a score and with three lives." Essentially they wanted us to churn out what was a typical game of the time. I was a bit horrified about that and more than a little crestfallen. *Elite* was also the first game that required a tape to save to and they were like, "People aren't going to want to provide their own tapes, as that will make the game even more expensive." There was a lot of negativity there, but I also felt that they didn't really get it. Essentially, Ian and myself had written a game for ourselves, rather than thinking what's the target market, what do people want, and that's essentially how Thorn EMI left it. In contrast, we then approached Acorn [where Bell had his contract] and the difference was astonishing because they were actually gamers and they were really excited. In fact, they got other people from the office to crowd around and look at it. That contrast for us was huge so there was no question in our minds that we should go to Acorn. And besides, Thorn had rejected us so it wasn't like we had a choice."

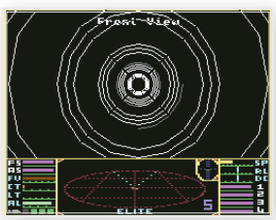
With a publisher in place, Braben and Bell continued their ambitious project. While the pair finished off *Elite*, Acornsoft began working on a huge publicity campaign, which immediately helped the incoming game to stand apart from its peers (see 'Prepare To Launch' boxout). "*Elite* took something like two years for us to fully complete," recalls Braben about its development time. "The game was actually completed long before it was released so we were able to tweak and test it and write the manual. We didn't encounter any particular problems while working on the BBC version."

The extra time and effort allowed *Elite* to truly shine upon its eventual release in 1984 and it soon became obvious that a lot of care, attention and undeniable talent had gone into *Elite*'s conception. Originally



Firebird's classic advertising is instantly recognisable and sums up *Elite* perfectly. Oh, and if anyone's interested, Braben's favourite profession is a bounty hunter, while Bell prefers to trade dangerous routes.





NOTABLE CONVERSIONS OF ELITE

AMSTRAD CPC 464
Being huge fans of Amstrad's machine we'd love to say it's the best version of the lot, but that would be telling porky pies of the highest order. It's certainly an adequate conversion, and the included rendition of the *Blue Danube Waltz* isn't too ear jarring, but it's far too slow to actually play through. It also lacks a couple of the ships – Transporter and Anaconda – that appeared in the original game.

NES
Playing *Elite* on a console may sound like a needlessly fiddly task, but this brilliant effort proves that the classic hit could appear on any system provided a little foresight was included. Thanks to a very intuitive menu bar, the NES version turned out to be a great success and received plenty of positive reviews upon its release. Amazingly, it never received a US release and remains one of the NES's most involving titles.

COMMODORE 64
It's a case of swings and roundabouts with this C64 version. While it runs slower than the original BBC version (sorry, it's true), it does boast a number of enhancements that didn't appear in Bell and Braben's original. There are several new missions, all the bugs have been ironed out and a new alien race called the Trumbles has been included. It's a solid effort, but we prefer the speed of the original.

ARCHIMEDES
Released in 1991, this is an astounding adaptation of *Elite* that really went to town. There were more ships than ever before; the AI had been greatly increased, while other ships would constantly participate in battles, giving you a far greater sense of immersion than ever before. If that wasn't enough, the game came with some decent freebies including a great looking poster and ship data cards.

AMIGA
While the Atari ST version (also developed by Mr Micro) is perfectly acceptable, we've always preferred the Amiga version of *Elite*. Not only is it far smoother than its ST counterpart, it also boasts greatly improved combat, and as a result is far more exciting to play. The only thing we don't like about it (and it's the same issue with other later versions) is that everything looks too darned pretty.

released in tape forms for the Acorn Electron and BBC B, and also on disc for the BBC B, Braben and Bell's game received extremely favourable reviews. BBC and Acorn owners suddenly had access to a game where they could effectively do anything (within the constructs of what was actually available, of course). Indeed, ask 100 gamers to name their favourite moment in *Elite* and you're likely to get 100 different answers, such was the game's freedom. Sandbox gaming is a term that's freely thrown about in today's world of *Grand Theft Auto*s, *Saints Row*s and *Crackdown*s, but in actuality the genre was alive and well in games like *Elite*, the industry simply didn't know the correct term.

Elite sold and sold until it actually sold around 150,000 copies for the BBC Micro, virtually the same number of machines that had apparently been sold – a stunning attach rate that today's console companies would kill for. When sales first reached 100,000 a news story ran on the BBC evening news, but this fervour of excitement was nothing compared to the frenzied bidding war that began when it became clear that publishers felt *Elite* deserved to be on other systems as well.

Back when Braben and Bell's contract for *Elite* had first been created, Acornsoft had been unable to offer the pair the high royalty rate they had asked for. Instead, the canny pair were able to keep the rights to publish the game on other systems. Some 18 months later, when *Elite* was selling like gangbusters, it had become so popular that an auction ended up being held for the rights. British Telecom's software arm, Telecomsoft eventually won the auction (which became a news story in itself) and conversions began to appear on its Firebird label. "Not giving them [Acornsoft] all the rights to the different versions proved very beneficial to us," recalls Braben. "We got a very good deal indeed."

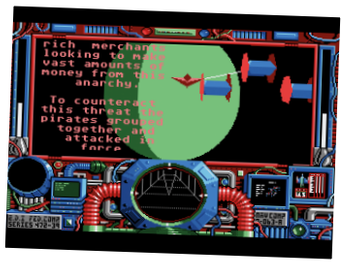
With Telecomsoft wanting to see a return on its investment, Braben and Bell soon started to work on the various conversions. "We did a lot of the

[C64] "That's no moon, it's a space station." Actually it's a planet but we thought the *Star Wars* reference was funny.

[DOS] Docking could be incredibly frustrating and required plenty of practice in order to perfect it.

OFF THE BEATEN TRACK

MASTERFUL REMAKES OR COMPLETE RIP-OFFS... HERE ARE JUST A FEW OF THE GAMES THAT ELITE WENT ON TO INSPIRE



FOFT (FEDERATION OF FREE TRADERS)
Released: 1988
Systems: Amiga, Atari ST
Federation Of Free Traders certainly tries its hardest, but there's no denying that it's nothing more than a poor man's *Elite*. While the Amiga version was able to fix all the flaws that were found in the Atari ST original, its biggest oversight is that there's no real sense of progression because you can power-up your ship to insane levels by simply playing the market before you've even left port. As a result *FOFT* became utterly pointless.

EVE ONLINE
Released: 2003
Systems: Windows, Mac, Linux
Seen by many gamers as a spiritual successor to *Elite*, *Eve Online* is an MMORPG set in deep space and is published and developed by CCP Games. Players can take on a variety of different professions throughout their career and can explore a universe that contains over 5,000 solar systems. Unlike similar MMORPGs, *Eve Online* does not use an experience-point system and instead opts for a system that allows for skills to grow in real-time.

FREELANCER
Released: 2003
Systems: Microsoft Windows
Freelancer's subtitle is *The Universe Of Possibility*. This is more than a little misleading, as Digital Anvil's unofficial follow-up to *Wing Commander: Privateer* lacks many of the features – automated flight manoeuvres, thousands of online players – that designer Chris Roberts originally promised. It's certainly an ambitious title and a more than worthy follow-up to *StarLancer*, but it could have arguably been so much better. One of the greatest missed opportunities of recent times.

X: BEYOND THE FRONTIER
Released: 1999
Systems: Microsoft Windows
Considering *Elite*'s age, it's amazing that it was able to get so many things right from the very off. *X: Beyond The Frontier* arrived 15 years later but still made annoying mistakes that the original space classic had neatly sidestepped. Although it featured a great sense of immersion, many gamers were frustrated with their woefully underrated ship – you started off with no weaponry – and the laughable combat that saw enemy craft do little more than ram into you.

WING COMMANDER: PRIVATEER
Released: 1993
Systems: DOS, Apple Mac
Out of all the *Wing Commander* games that are available, *Privateer* and its expansion pack, *Righteous Fire*, share the most in common with Braben and Bell's *Elite*. Taking on the role of Grayson Burrows, the player is able to land on planets and bases, jump across different star systems by using specific jump points and gets to trade with a variety of equipment, weapons and other times with numerous aliens. It's far more freewheeling than the rest of the rigidly structured *Wing Commander* series and boasts greater open-ended gameplay.

"INSPIRATION FOR ELITE CAME FROM A VARIETY OF DIFFERENT SOURCES, FROM 2001: A SPACE ODYSSEY TO STAR WARS"

THE HISTORY OF...

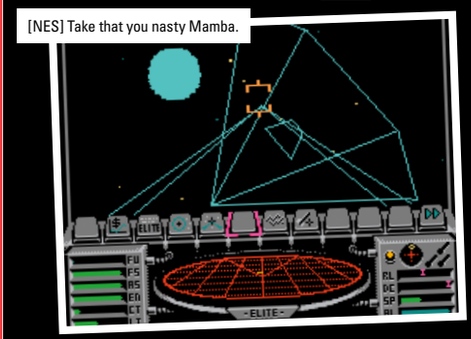
ELITE

PREPARE TO LAUNCH

The owners at Acornsoft knew that they had something special on their hands with the incoming release of *Elite*, so they pulled out all the stops to ensure that gamers would know that they had purchased something very special.

The original release came with a ludicrous amount of extras that ranged from the massive manual to a forgery-proof sepia postcard that enabled you to enter a competition to become 'Elite'. Then there was the excellent novella *The Dark Wheel*, that was found within the lavish packaging. As well as being a genuinely enjoyable read in its own right, it also acts as an entry guide to *Elite*'s world and features many elements that are in the actual game. If you don't have your own copy of *Elite*, the complete transcript for *The Dark Wheel* can be found at Ian Bell's homepage www.iancgbell.clara.net/elite/dkwheel.htm.

Acornsoft's biggest masterstroke was its decision to launch *Elite* at Thorpe Park in 1984 (the world's first underground rollercoaster had just opened there). Launch parties for games were unheard of at the time and the people that attended were treated to a private unveiling by Braben and Bell, which consisted of a BBC Micro, hooked up to a huge TV. *Elite* had arrived and it wasn't taking any prisoners.


[NES] Take that you nasty Mamba.

conversions ourselves," says Braben. "We worked on the Commodore 64 conversion, the Apple II, the NES and many others, while a company called Torus did the Z80 processor versions, which included the Spectrum and the Amstrad."

While great lengths were made to ensure that these later versions were just as good as their Micro counterparts, different processors meant this wasn't always possible, and sometimes certain omissions had to be made. The Amstrad CPC port, for example, had a couple of missing ships – the Anaconda and Transport – and mission differences, while the Spectrum version was noticeably slower than its BBC counterpart. Interestingly, the Spectrum outing was also the first major release to use the Lenslock protection device, which was essentially a plastic decoding lens that was used to decrypt a hidden access code.

One thing that Bell and Braben did try to do though was to continually add new missions to later versions of the game, with a noticeable example being the Trumbles that appear in the Commodore 64 outing. Based on *Star Trek*'s tribbles they quickly multiply until they fill your Cobra Mk III's precious cargo hold and start appearing on your craft's dashboard. They can only be destroyed by sun skimming (essentially flying close to the surface of the sun and burning them). Such were fan's devotions to the game that many of them would continue to buy later versions just so they could play the new missions that had been included.

While many of the conversions (especially the 8-bit offerings) were almost as critically acclaimed as the BBC original, special mention must go to Warren Burch and Clive Gringras's excellent Acorn Archimedes version, *ArcElite*, and Braben and Bell's very own NES conversion, which featured a brilliant and easily accessible icon strip – actually taken from *Elite*'s sequel, *Frontier* – to make up for the machine's lack of keys.

"It's really difficult to say, but I would probably say the BBC Micro one, the first one, because it was so close to my heart," explains Braben, when we ask him what his favourite version of *Elite* is. "In terms of the best to play though it's difficult to tell. The BBC Master version came a little bit later and was very nice because we could tweak little aspects of it and that was lovely to play. The NES version was also very good as well." Bell also has a fondness for the BBC and cites the disk version as his favourite. "It exploits the underlying machine capacity more comprehensively than the later BBC enhanced versions," is his reason. "Playing BBC 6502 Second processor *Elite* was far smoother and more colourful, but I always liked the purity of the disk version."

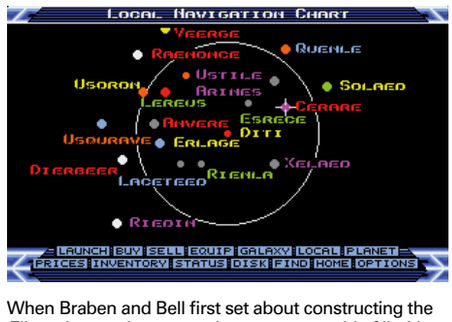
With *Elite* a huge hit on virtually every format it appeared on, discussion soon began to move to a sequel, but it would be a sequel that would lack the input of Bell. "After we completed all the different versions of *Elite* we essentially became 'Elited out'," says Braben. "Although Ian and myself had already started a punitive sequel to *Elite*, it didn't actually go anywhere. Ian, I think, wasn't really motivated to work any more, so we split the tasks up but it eventually became myself working on it." Bell and Braben soon parted ways and to this day they are no longer on speaking terms.

Braben still had a game to make though, and without the input of Bell and the sheer scale of his next project, he found *Frontier: Elite II* to be a thoroughly draining experience that had a far longer development time than its predecessor. "It definitely took a lot longer to program," recalls Braben. "It was something over five years and the reason for that was because it was very much a bigger game and concept. Also, I was working on my own, Ian wasn't involved at all, so it just took a lot longer for me to do. After that I finally decided that I didn't want to do another solo project. To be honest, when I first did the graphics for *Frontier* they were truly ground-breaking, whereas by 1993 when it came out they just weren't. It was okay and still looked kind of interesting compared to other games out there but it wasn't as far ahead as it could have been. So I lost a lot of time on it."

> "WITHOUT THE INPUT OF BELL AND THE SHEER SCALE OF HIS NEXT PROJECT, BRABEN FOUND FRONTIER: ELITE II TO BE VERY DRAINING"

Another difference that Braben experienced was the tremendous pressure he found himself under from new publisher Gametek. Something he was far from happy about. "It was much more of a commercial environment," says Braben about the changing industry. "I signed with Konami, who I thought would be quite a good publisher for me, but for whatever reason they

PROCEED WITH CAUTION



When Braben and Bell first set about constructing the *Elite* universe, they wanted to create a world of limitless possibilities that would allow the player to experience a sense of freedom that no other game could offer. Frustratingly for the duo, the BBC's small memory meant that they had to find a way to make their game feel as vast as possible without compromising on the many elements they wanted to include.

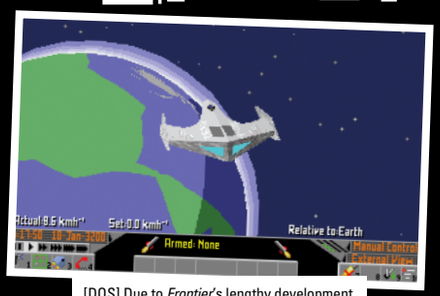
The pair eventually decided to procedurally generate *Elite*'s galaxies and proudly told Acornsoft that it would contain 2^{48} (approximately 281,000,000,000,000) total galaxies. The ambitious figure was eventually dropped when Acornsoft pointed out that such a huge figure would make the artificiality of *Elite*'s universe obvious to the player and that many of the galaxies would look identical. Braben and Bell relented and dropped the number of galaxies down to a more manageable eight. With each galaxy containing 256 planets this was still an impressive figure and allowed the player to feel that they were exploring a truly gigantic world.

ELITE FOREVER

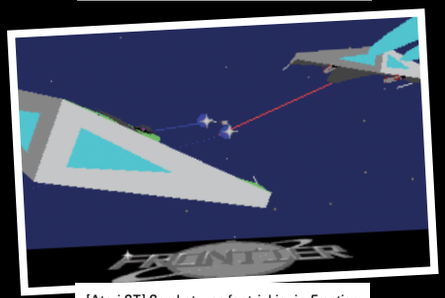
Elite's impact was notably huge with fans, but how did it affect other developers? We managed to track down a few coders of old to find out how Braben and Bell's game influenced them.

"*Elite* quickly became legendary and incredible for the 'galaxy in a box', which was a brilliant example of where people's minds filled in the many blanks," recalls Team 17's Martyn Brown. "Yes, I loved it, but do recall it being quite brutally difficult, but then I was never really good at games, mostly harmless you might say."

"The thing that struck me most with *Elite* was just how vast it was… it was the first game you could go on and on playing forever without ever getting to the end," recalls Jon Hare. "At Sensible it inspired us to start development of a 3D space game the name of which, '*The Day The Universe Died*', was selected by myself and Chris from a bunch of suggestions that were sent in by readers of *Zzap!64*. We liked the name because it was so poor. Unfortunately, the game was never finished."



[DOS] Due to *Frontier*'s lengthy development period its graphics were no longer cutting-edge when it was eventually released.



[Atari ST] Combat was far trickier in *Frontier* due to its realistic physics. As a result, becoming 'Elite' required real skill.

[Amiga] Being able to exchange your ship for a new craft was just one of the benefits that *Frontier* offered over *Elite*.

restructured and sold their operation to a brand new company called Gametek. I hadn't heard of them and was very sceptical, so I didn't agree to the transfer, which is why Konami's name remains on the box. They did put me under pressure, which is a shame, as I don't think *Frontier* got the same love and attention that it should have done, that *Elite* did get. You know, that period from when the game is actually finished and you polish it and make it really, really slick; and I think *Frontier* suffered because of that. I think it's still a great game, it just lost out in the quality stakes."

When *Frontier* was finally released in 1993, interference from Gametek meant that the game shipped with a number of annoying bugs, something that still frustrates Braben. "It's very upsetting. It's like seeing a baby with chocolate around its face. It's not that the game isn't great, it's just that it could have been that bit better." Despite Braben's concerns about *Frontier*, the Amiga version still received impressive scores, with practically all of them being in the mid-to-high Nineties, with the exception of *Amiga Power*, who awarded the 500 version 65% (ten per cent less than the faster and smoother 1200 offering).

"It just irritates me that people just want to make a point, they want to be seen and to try to get a little bit of notoriety from it," says Braben about the controversial score. "Essentially that's a reviewer not doing their job of reviewing something. They should give an honest opinion. If that was their honest opinion, then fair enough, but personally I doubt it. I just think they're trying to make a point. Similarly though, some of the reviews were actually probably too good, dare I say it. I think there were some very high 97s, which is a great thing and I'm sort of honoured by it. I've seen a number of reviews this year for games like *BioShock* and it's a great game, but giving it something like ten out of ten? After you've just criticised certain elements of it? It just doesn't make sense to me."

Despite its exceptionally high scores and glowing reviews, there were elements of *Frontier* that gamers did take exception to, with the most noticeable one being combat. The arcadey nature of the original *Elite* had completely changed because Braben had created *Frontier* with Newtonian physics. As a result, controlling your ship in the middle of a frenzied dogfight could make for an incredibly frustrating experience. Braben is convinced, however, that he made the right decision; "It was less fun," he admits, but the physics did make for a far more realistic experience. Even if it did result in a few problems. "It wasn't particularly difficult to create the physics," he admits. "The problem was getting the performance and I think that's where some of the issues come from, as there were quite a few rough edges there. Not so much so in the way that it all works, but the way it transitioned between different levels of detail. It could have been cleaned up."

There may have been issues with *Frontier*, but it was also obvious from its sales (an estimated 500,000) that there were a great many gamers out there who were prepared to buy into the *Elite* franchise. After all, *Frontier* offered exciting new elements like the ability to land on planets and the opportunity to fly in a variety of different ships. Imagine what a third game could offer…

The third game was *Frontier: First Encounters* and like *Frontier* before it, it bravely pushed the envelope that had first been opened by *Elite*. Huge in scale and with the same intense addition to realism that had

> "THERE MAY HAVE BEEN ISSUES WITH FRONTIER, BUT IT STILL SOLD AN ESTIMATED 500,000 COPIES"

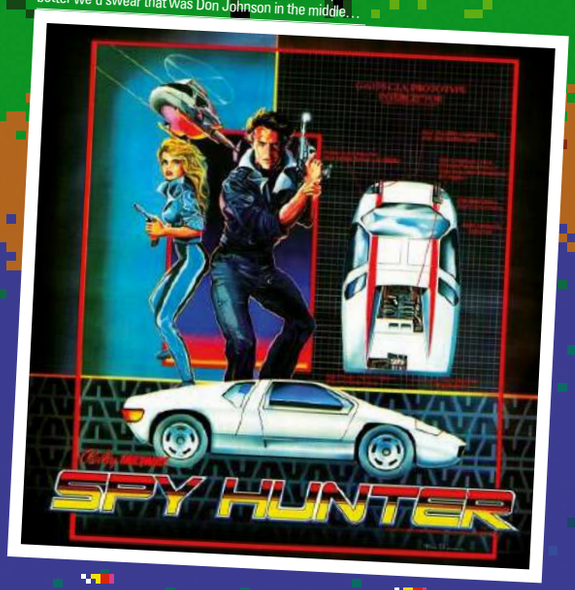
divided those who had played *Frontier*, it boasted vastly superior visuals – it made extensive use of texture mapping and Gouraud shading – and a new journal system that had not been seen in the franchise since the addition of *Elite*'s huge manual. Frustratingly for Braben, however, he once again faced pressure from Gametek that saw *First Encounters* being released long before it was actually ready. This time magazines were not so favourable to Braben's effort, with many of them complaining about the game's many bugs and seeing it as far from a complete product. The journals were a typical example of elements of the game that just lacked polish. "As with many things in *First Encounters*," recalls Braben, "it wasn't really fully realised."

"The real problem with *First Encounters* was that it was under an unreasonable amount of pressure," says Braben about the difficult project. "There was so much interference [from Gametek] that we offered all the money back so we could get out of the deal because I felt it was going to be a disaster. So that was a massive distraction and the game was nothing like what I wanted. As a lot of the hackers have already found out there was a lot of extra story in the game that was closed off for the final release, because part of it didn't even work. It was an accumulated thing and it eventually turned into a lawsuit, which, after a very long time I won, but that's the sort of thing that tends to get lost in the history of time. But it is a tragedy and when I say *Frontier* went out with chocolate on its face, this went out with something way worse than that. Some people will be rightly annoyed about that, but it's just one of those things and you have to put it down to experience."

First Encounters may have been something of a bitter pill to swallow for many fans of the franchise but it still harbours moments of brilliance and it did done nothing to diminish the anticipation for a new trip through the *Elite* universe. 2014 saw the successful release of *Elite Dangerous*, and it has become a mainstay for space flight simulator enthusiasts today. But why after all these years does the original *Elite* remain such a hit with gamers – it was voted as the best game of all time by **Retro Gamer** readers way back in issue nine. "Does it remain popular?" asks Bell. "I think people have fond memories of it the same way they have fond memories of particular TV shows they grew up with, but I don't think *Elite* is played much by kids today." Braben's opinion on *Elite*'s success is more upbeat. "It's just a nice, well-rounded treatment of the world and I think that's what makes it so attractive," continues Braben. "Looking at the games now, they look very dated but nevertheless they are still a consistent view of the world, especially if you're into astronomy and things like that. Particularly, *Frontier* and *First Encounters* are extremely interesting in the way that they present stars. I still think there's a lot of interest there."

SPECIAL THANKS TO Neil Wallis for his spaceship models, MobyGames for additional screenshots and, of course, David Braben and Ian Bell.

THE MAKING OF...



» Spy Hunter's cabinet side art. If we didn't know any better we'd swear that was Don Johnson in the middle…

SPY HUNTER

Front-mounted machine guns, oil slicks, smoke screens, guided missiles and aquamarine go-faster stripes – Q would have been proud. Mike Bevan talks to ex-Bally/Midway graphic artist Brian Colin about the finest arcade 007 homage ever made

A never-ending highway scattered with homicidal enemy agents, unreliable bridges, VW Beetles and unfortunate bikers. Scored by the unmistakable jazz-like riff of the Peter Gunn theme, Spy Hunter was the epitome of cool Eighties arcade gaming. A thinly veiled tribute to all things shaken, not stirred, in overhead-view racing form, those lucky enough to encounter the sit-down version in particular will vouch for the sheer exhilaration it generated.

Starring a lone coupé, the G-6155 Interceptor, locked in a desperate struggle for survival with assassins sporting switch-blade hubcaps, shotgun-toting sedans and even bomb-flinging helicopters, the odds were stacked against you. And unlike the indestructible Bond, players were more vulnerable with their three fleeting lives granted once the game shifted into its highest gear.

"I wasn't around at the game's conception," admits Brian Colin, one of four artists working on the project, alongside lead programmer Tom Leon and arcade hardware designer George Gomez. "When I joined, the basic controls were already functional… a simple car was moving left and right, and up and down… but little else."

Tom and George were fans of the Bond movies. Tellingly, the game's original background music was a version of Monty Norman's famous spy theme. Of course, licensing issues later called for an alternative soundtrack. Luckily, there didn't appear to be any way for the Fleming camp to put the dampers on re-creating generic 007-style gadgets and vehicles, as long as the team did not blatantly copy *Goldfinger*'s Aston Martin DB5 or specific details of the films.

Still, presenting a cinematic car chase on Eighties arcade hardware was daunting. The technology for sprite-based 3D racers like *OutRun* and *Chase HQ* was still a few years off, so taking Tom's "simple car" and placing it on scrolling 2D tarmac seemed the best solution. *Spy Hunter* was Bally/Midway's first crack at a scrolling arcade game, a genre still in its infancy at the time. The majority of releases back then were of the single or flick-screen variety.

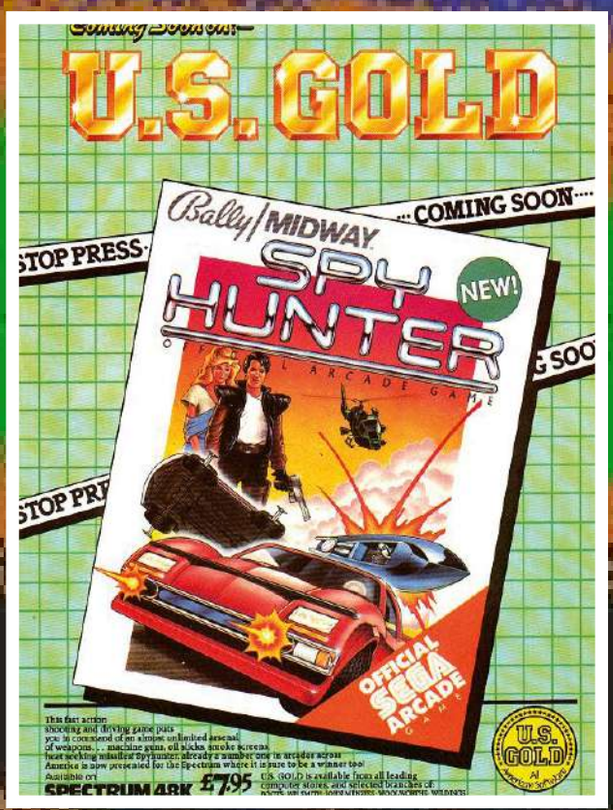
During development, the team only had one prototype system, so Tom used it to code by day, while Jeff Nauman, the second programmer, had access to it at night. Being a slightly rushed, ad-hoc system meant it wasn't perfect for the job by any means. "I was told it was actually hardware scrolling, but since it was basically a specially modified afterthought to the existing hardware, it wasn't particularly good scrolling hardware," explains Brian.

"This presented a set of unique challenges," he adds. "The 'background' was made up of lower-resolution, artificially elongated rectangles. Blending the hi-res foreground elements with the chunky background was a challenge, as was creating a slightly skewed top-down look for buildings, bridges and so on that managed to convey the necessary information in an interesting and aesthetically pleasing manner. As an artist who enjoys creating cartoony

IN THE KNOW

- **PUBLISHERS:** BALLY/MIDWAY
- **DEVELOPER:** IN-HOUSE
- **RELEASED:** 1983
- **CONVERSION PLATFORMS:** APPLE II, ATARI VCS, ATARI 8-BIT, BBC MICRO, C64, SPECTRUM, NES, GBA
- **GENRE:** DRIVE-'EM-UP
- **EXPECT TO PAY:** £400+ (UPRIGHT CABINET) £500+ (SIT-DOWN CABINET)
- **BY THE SAME DEVELOPER:**
  DISCS OF TRON (1983) (PICTURED)
  RAMPAGE (1986)
  XENOPHOBE (1987)

» Discs Of Tron



FENDER AVENGER

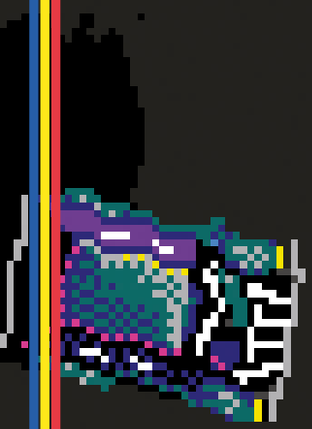
Some videogame titles are so perfect it's difficult to imagine anything else ever being considered, and *Spy Hunter* evokes the over-the-top Eighties action-movie heritage of its gameplay brilliantly. It could have been very different, though. A handwritten memo – the results of a group brainstorming session for the game's title – reveals a list of abandoned names including the spectacularly rubbish *Spymobile*, the rather more amusing *Startkey & Clutch*, *Lead Foot And Road Reamer*, and *Dukes Of Tron*, a sly nod to Bally's previous hit *Discs Of Tron*. And we'd imagine that anyone who's ever been caught in a tailback on the M25 might appreciate the sentiment of the proposed *Rush-Hour Avenger*. We also like the sound of *Drunk Tank* – any game involving inebriated heavy armour sounds like a pretty good idea to us…

"As an artist who enjoys creating cartoony characters, the realistic nature of the game meant I had to exercise restraint"

THE MAKING OF... SPY HUNTER

» [Arcade] Despite the driving conditions, icy roads provide ample opportunity for oil-slick fun.

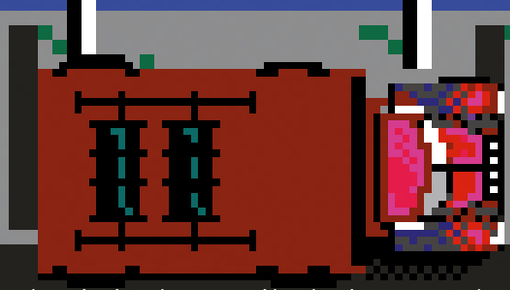
» [Arcade] Whoops… Sorry, mate, I didn't see you there.



characters [as seen in *Rampage*], the realistic nature of the game meant I had to exercise a bit more restraint."

"*Spy Hunter* was the ultimate evolution of the 'falling attacker' gameplay made popular in such games as *Space Invaders*, *Centipede*, and *Galaga*," Brian admits. It augments additional play tactics to the standard up-screen shooter, mixing in additional rear-firing weaponry in your smoke and oil attacks with the ability to collide with and aggressively smash enemy vehicles off the road.

"This part of the game was always intended to come straight out of the action movies that inspired it," says Brian. "Tom knew he needed to give players the ability to deal with side attacks in a way that required a bit of finesse. The tricky part was hitting other cars solidly with the side of your vehicle, but not so hard that you damaged your own car. Tom factored in speed variances, too, so you had to match the opponent's speed before slamming into them or you'd end up in a crumpled heap.



We also knew that the up-screen action had to be fairly easy to master, like shooting fish in a barrel, so we had to create an adversary [the bullet-proof Road Lord] that was immune to gunfire from behind and would need to be dealt with in an entirely different way. So once Tom created and refined the bumping motion of the player's vehicle, he added that ability to the AI vehicles as well."

Which brings us to the enemies. "These guys were always intended to be a part of the game," Brian reveals. "Certainly they were in the very first discussions… Tom's 'sideways bump' was devised so that players could defend against the tyre-slashing side-to-side attacks of these bad guys… so long as you avoided their nasty spinning knives."

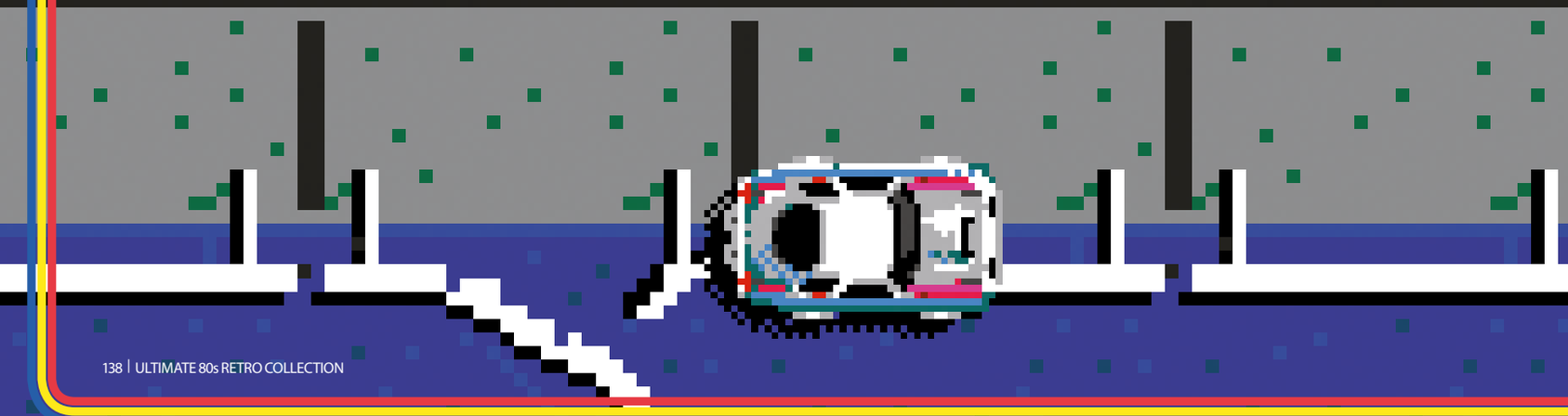
Despite the hit-and-run mayhem created by the Road Lord and his wheel-mashing cronies, civilians with family saloons, Beetle hatchbacks, and motorbikes often wander into your line of fire. Our operative must exercise caution to protect them, because shooting or bashing them off the road by 'mistake' plays havoc with the scoring. "You didn't actually lose points; you just stopped gaining additional points momentarily when an innocent was hit," says Brian. "It was important not to 'reward' indiscriminate vehicular homicide, regardless of how much fun it was."

The last of the trio of four-wheeled villains was created in order to address an in-game issue that had been bugging the team. "We had a problem," explains Brian. "After a crash, we couldn't really control where a player's vehicle might respawn, and we wanted to let him get up to speed before safely pulling back onto the road. So to be nice, we disabled initial off-road collisions after a new car was spawned. Players soon learned they could stay off-road indefinitely, effectively cheating the game. Rather than put off-road collisions back in, which would penalise the folks who didn't cheat, it was suggested that we create a vehicle that would slide up beside the cheaters and blow them away. Thus the Enforcer was born. He eventually made his way into normal gameplay as well."

Alongside those worthy adversaries and civilian bystanders, players can be thankful for one ally, another of the initial vehicles Brian remembers working on. In a move to give your machine-gun-toting sports car the upper hand later in the game, supplementary equipment in the form of smoke screens, oil slicks and missiles can be picked up via the Weapons Van. Performing the cinematic feat of negotiating a ramp at full tilt into its belly offers the added bonus of a brief respite from the high-speed carnage.

"There was a lot of tuning on this game element," recalls Brian. "It sounded simple, but positioning the Weapons Van in front of the player's vehicle was not easy. Tom had to… anticipate the player's movements. It always amazes me when I watch the car glide effortlessly into the van, knowing, as I do, the weeks of tweaking it took to get it just right."

Exploiting the Weapons Van is essential as failure will leave you at the mercy of *Spy Hunter*'s airborne hoodlum: the Mad Bomber helicopter. "We wanted to increase difficulty as the game went on, without simply throwing so many cars at the player that all hope was lost," says Brian. "By creating an adversary that couldn't be hurt without a particular weapon, we'd both reward them and



increase the pressure at the same time. The Mad Bomber wasn't that tough, but if you missed your chance to get the missiles, his grenades could be the final bit of mayhem that overwhelms you."

The final in-game twist comes in the form of the 'Bridge Out' notices that flash up on the highway, after which the road falters followed by a humiliating dip for any driver foolish enough to ignore the warning. The answer, as Bond fans will know, is to take a short cut through a nearby boathouse and transform from car to suitably equipped speedboat. Brian reveals that this memorable game feature was an afterthought. "Once the entire game was fully functional, we realised it would be fairly simple to re-create all the art and let our hero fight on water as well as on land," he explains. "Newly hired animator Steve Ulstad was responsible for most of the aquatic vehicles."

Brian reveals a number of other details about *Spy Hunter*'s creation. The roads and rivers were not randomly generated but painstakingly mapped out in advance. A 'real-time jazz generator' played the *Peter Gunn* theme with subtle variations in every game. The timed period at the start, which allows players infinite lives was to give first-time players the chance to "make mistakes" as it was felt the game was more involved than others at the time.

We ask if Brian agrees that George Gomez's famous sit-down cabinet was the best way to experience the game. "Absolutely the best way to play it," he exclaims. "And make no mistake, George's role went way beyond 'cabinet designer'. In those early days, George was in many ways the 'unofficial' creative team lead, and his unbridled enthusiasm and passion was contagious."

Brian's also happy to provide some background on *Spy Hunter II*, a dubious follow-up that ditched the top-down formula for an angled 3D perspective. "I'd just seen the Road Warrior and was looking for a vehicle – no pun intended – that would allow me to mess with post-apocalyptic images," he recalls. "From the first design meeting, it was obvious that a lot of compromises were necessary, and I suspected we didn't have any business attempting to do what we were doing on the system we had available. But sometimes, in the real world, it has to be about keeping the guys on the production lines busy, so you work with what you've got. I don't think any of us felt that it did justice to the original."

And what a game that original was. Which makes it surprising to learn the laid-back manner in which the team pieced it together. "*Spy Hunter* was unlike almost anything in development at the time," confesses Brian. "It wasn't on a schedule, it wasn't high priority. It was developed, literally, in a back room, which helped it stay below the radar. As a result, Tom could spend months and months tuning and tweaking the game. With the benefit of hindsight, we were simply a bunch of kids being allowed to play."

> **"George Gomez was the 'unofficial' creative team lead. His enthusiasm and passion was contagious"**

HEROES & VILLIANS

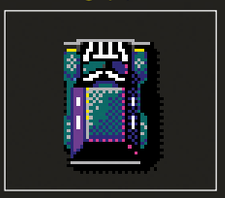
Get your motor running. Head out on the highway. Trash some spies

G-6155 INTERCEPTOR

INTERCEPTOR SPEEDBOAT

WEAPONS VAN

The bad guys, as noted in your spy-hunting handbook's appendices


ROAD LORD (150 POINTS)

SWITCH BLADE (150 POINTS)

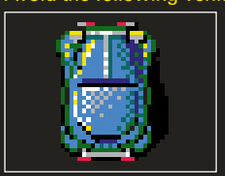
THE ENFORCER (500 POINTS)

THE MAD BOMBER (700 POINTS)

BARREL DUMPER (150 POINTS)

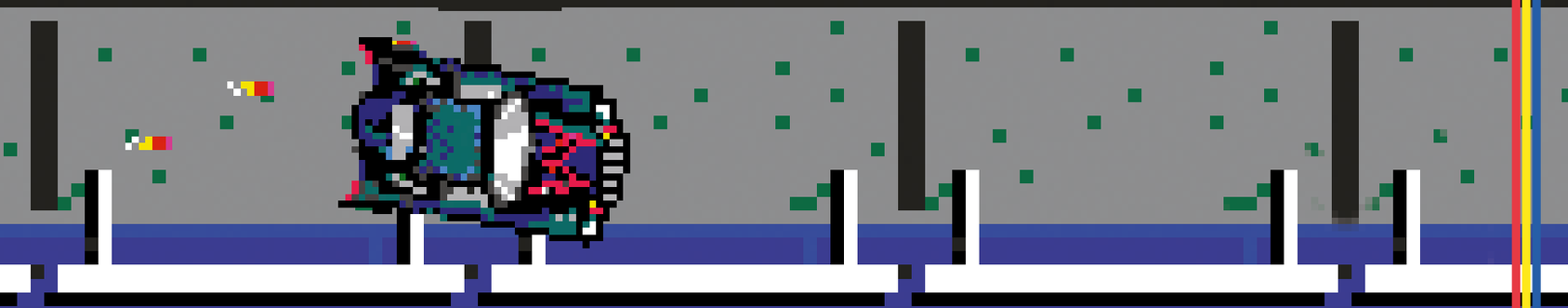
DOCTOR TORPEDO (500 POINTS)

Avoid the following vehicles, they're harmless civilians


HATCHBACK

MOTORCYCLE

SALOON

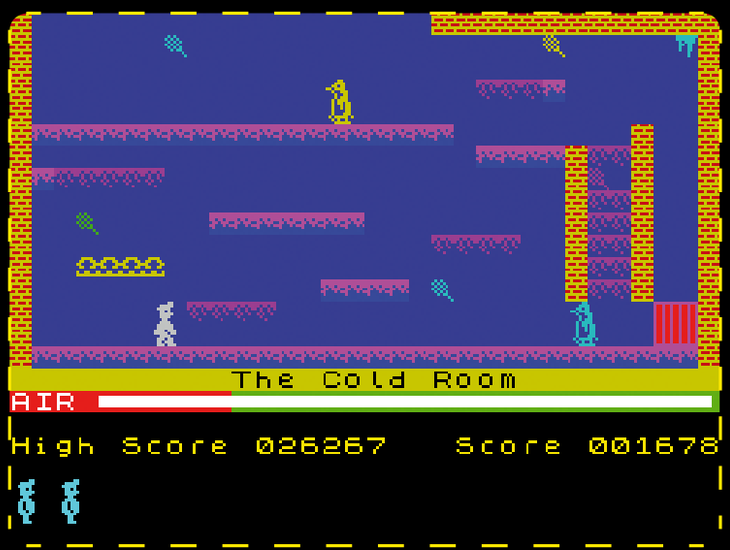


THE MAKING OF... MANIC MINER

SAT AT THE VERY DESK WHERE IT WAS WRITTEN, MATTHEW SMITH WATCHES MINER WILLY LEAP THROUGH ALL 20 SCREENS OF HIS SPECTRUM MASTERPIECE. PAUL DRURY HOLDS THE ASHTRAY AND TAKES NOTES

CENTRAL CAVERN

"This was the test screen, the first of everything," begins Matt. "The collapsing floors, conveyor belts, the jumps, the colour clash. Using two colours in the bricks of the solid platforms and then when you jump up on to the first platform, that's all testing for colour clash. It has one of all the difficult jumps in, too." How was difficulty determined, we ask. "From the end of the conveyor belt to the higher platform counts as a difficult jump… but I put in a safety net. I plotted it out on graph paper: two pixels and then a parabolic, acceleration down until you hit terminal velocity, at about four pixels a frame, then you started falling straight down. I'd do all the testing and see where you'd land." And what about the clockwork baddie on the conveyor belt? "Oh, just something I'd drawn. There's a bit of Yellow Submarine in him – that's where the mouth in the belly came from. The original sketches I did had water instead of conveyor belts. There were going to be streams of water and I was thinking about making it impossible to go backwards. That would make it more of a puzzle – working out how to get somewhere without going upstream – but by the time I started coding, they'd become conveyor belts."



THE COLD ROOM

Matt stares intently at the 'keys' on this level. "They're snowshoes. Well, tennis rackets." He then starts tapping the screen before we gently remind him it isn't a touchscreen. "Mmm, oh, right. I was just thinking about tweaking a pixel. I'm not sure if it would be better light or dark. I must have tried it both ways back then." Ever the perfectionist. And what about the shuffling birdies? "Everyone knows penguins are fully signed up members of the funny animals union." As Willy slowly descends the 'chimney', Matt chirps up, "For disintegrating platforms, I used the video memory of the Spectrum. It was the first machine I had with a bit mapped screen." We note that the Cold Room level is considerably easier than the previous one. "Oh, I didn't do the screens in order. No, I did the first screen first and then I think I made some attempt to sort the rest out and give a graduated gameplay. That's why the first screen is disproportionately hard, because it wasn't part of that scheme."

THE MENAGERIE

Matt scans the collection of creatures on screen. "Here we've got spiders, emus, well, ducks or something. Yeah, they're flying! Well, their feet are coming off the ground. They're having a go! Hang on; there are only two kinds of animal in there. That's a bit lame. There should be at least three before you call it a menagerie!" Matt's French may be questionable, but we wonder if the birds do signify another sort of love, that of a man for his footy team? "Yeah, you could see it as a tribute to Liverpool FC. They're not far off being liver birds and I'm definitely a red shirt."

ABANDONED URANIUM WORKS

Matt denies this is a comment on the nuclear paranoia of the Eighties, though it did play on a very real fear. "It's a room full of difficult jumps and you have to go across it more than once. It was supposed to be scary, about testing your confidence." He starts to contemplate the nature of death. "Miner Willy is two characters high and if you fall four characters you're dead. Two, you're safe and three… hang on, was two deadly? Oh, I can't remember…" His memory works better when recalling how he coded Willy's famous leap. "The first two frames, you go four and four pixels, that's one whole character, then it's 3, 3, then 2, which makes eight pixels and another whole character. Then 2, 1, 1, 0, 0, -1, -1, -2, -2… it's a smooth curve rounded to the nearest integer." He grins and inhales deeply. And the performing seals? "Oh, I think that was because I had a six pixel rotating ball and thought, how am I going to make this into a character? I know, I'll stick a seal below it!"

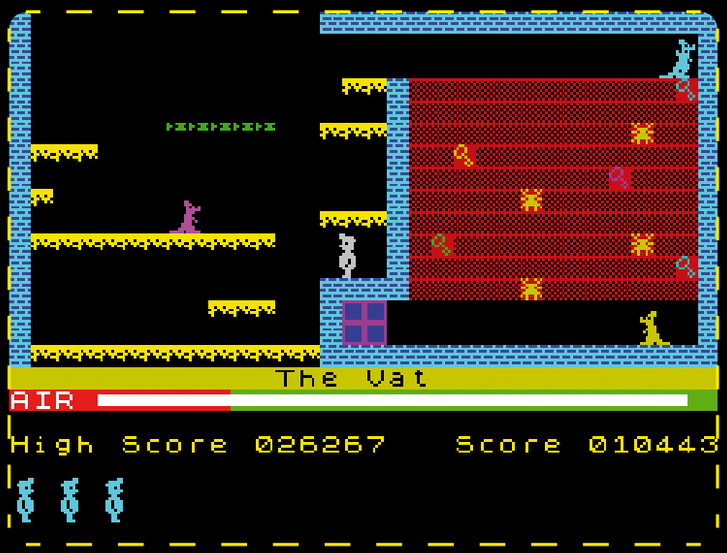
EUGENE'S LAIR

So to the memorable snapping bogs of Level 5. "I was telling my little brother Anthony about the toilet monster that reaches up and grabs you. Yeah, he really believed there was a green monster that lived down there," chuckles Matt maliciously. Not a comment on fellow coder Eugene '*Wacky Waiters*' Evans' career going down the pan, then? "I'd met Eugene a few times. We were passing acquaintances. He'd hit the press before me and he played the media darling far more thoroughly than I did. Must have been jealousy, because he was working for the 'other' company, Imagine and I was still aligned with Bug-Byte when I was doing this. And they were buying flash cars first and writing good games second. Actually, I'd have got more trading in a smashed up sports car than I've had from any residuals." Are those gold bars Willy is collecting? "Nah, they're supposed to be stacks of credit cards. I had a choice of putting in a line to show they're stacked."

THE MAKING OF... MANIC MINER

PROCESSING PLANT

An obvious homage to the arcades of Matt's youth. "Yeah I used to play *Pac-Man* at the Unit 4 cinema in Wallasey." ("Don't look for it, it's not there any more" – *Spinal Tap*, ed). The addition of legs was a feeble attempt to avoid copyright infringement, perhaps? "Oh, I think we were all relying on the American 'Fair Use' provision, though thinking about it, that didn't actually exist in British law at the time. No, there were spare pixels free at the bottom. It had to be ten pixels wide to make it scroll smoothly and because it's round, it's got to be ten high, when everything else is 16, hence the legs." We note the level requires some tricky traversing along platforms with restricted headroom. "Yeah, I was designing routes by this time. I usually tried to get you to go across the screen as many times as possible, which makes things more interesting," cackles the evil genius.



THE VAT

Given Matt's on-off relationship with money over the years, we wonder if this is a reference to the Inland Revenue? "Nah, just a huge block of collapsing floors," he assures us. "Pure aesthetics really and no extra code needed. These collapsing floors were supposed to be one thing and I was seeing what else they could be. That's serendipity, that." And what of the kangaroo connection? He exhales and ponders for a while. "Erm, kangaroo meat? Dog food factory? Dunno… could be… random thoughts." With all the disintegration, it must have been an awkward screen to test? "With The Vat, I had my route and tested it over and over again. I didn't really know if there were any other routes. Some of these levels I've only ever done once, to this day. Same principle with the Banyan Tree in *Jet Set Willy*. There's no random numbers in the game. Every time you go into a level, you get the same start positions and speed, so if I can do it once then it's going to be a bit difficult for the good players." That's something of an understatement, Matt. "Quality control," he winks back.

MINER WILLY MEETS THE KONG BEAST

Another nod to the New Brighton arcades he frequented as a lad. "Barrels, bananas… I should have put hammers in and it would have been a complete tribute to *Donkey Kong*," he notes. It includes some testing jumps – "Yeah, some fives on this," Matt confirms, referring to the width of the gap in characters, "and they had to be pixel perfect." – and the first appearance of switches, though flipping both wasn't obligatory. "Maybe that was a mistake," muses Matt. "Maybe you were supposed to flick it to finish the level and I just completely forgot to test it." Then he has an epiphany. "Ah, no! The only violence in the game is completely optional! That's for if you feel a pathological compulsion to kill the Kong Beast. I think I was just being a hippy…" He adopts a 'Neil from *The Young Ones*' accent, which is not hugely different from his real voice. "You don't have to kill the monkey, man!"

WACKY AMOEBATRONS

"Yeah, a straight horizontal grid, innit," observes Matt of one of the game's more traditional levels. But are those bog brushes on wheels? "Ah, because your collisions with the sprites are pixel perfect, here I was testing what shapes you could clear. Willy was always 16 pixels high, but different widths at different points during a jump. I was testing the limits, so I made it as tall and thin as possible. I think I was going to make it go up and down so you could only jump over it at certain times, but then I worked out that even at the full height a sprite could be, you could still get over it if you timed it right – this was the level where I was finding that out." It's also the first level to undergo a change when *Manic Miner* was re-released through Software Projects. "Yeah, the amoebatrons were originally the Bug-Byte logo, so I changed them when I left. Didn't need any legal advice on that one!"

ENDORIAN FOREST

Those creatures look uncannily like Ewoks, Endor was their home planet and *Return Of The Jedi* was released the same year as *Manic Miner*. Let's take a wild guess and say you were a *Star Wars* fan, Matt. "I was that week! Went to see it, came home and stuck this screen in. Would I be a Jedi or Sith? Oh, Jedi! In fact, I put that on the last census as my religion." At this juncture we suggest a pause to replenish the Guinness and empty the ashtray as we're on screen ten and so halfway. "Nah, this is screen nine," Matt protests. We assure him we've reached double figures. "Oh, sorry. I always start counting from zero." You can't take the hex out of the boy…

ATTACK OF THE MUTANT TELEPHONES

The title is a reference to fellow coder, Jeff Minter. "I met Jeff a few times, when we won Golden Joysticks. We got on alright. Talked about music and stuff." We recall you said you liked this screen during your appearance on Iain Lee's TV documentary *Thumb Candy*. "Those phones are probably my favourite. Do you wanna see a photo of the actual phone they were modelled on? A BT 300 series." Matt goes upstairs but returns empty-handed. Quite a busy screen, this. Was there a limit to the number of enemies you could include? "Yeah, four going up and down and four going left and right. Hang on, I think you could change that to eight going up and down or left and right. I think I did that on certain screens. The Skylab Landing Bay… But yeah, eight was the limit. Due to memory. And speed. There's only so much you can draw before everything slows down. So make eight a constant and you don't have to worry about it!"

RETURN OF THE ALIEN KONG BEAST

Alien because of the pulsating head we assume, Matt. He squints at the screen. "Yeah! It is going in and out!" Matt simulates the throbbing with his hands and this seems to trigger the memory of a little coding quirk. "I gave all the screens literal numbers, so like, if you were using one of those editors that came out, this screen would always have to have a Kong Beast in. Every screen had to share the same code – I couldn't do 20 different programmes – so I'd have flags and if it was one of those screens and another test was passed, whatever it was, Kong, Eugene or whatever, would go to the bottom of the screen and stay there." We watch Willy plunge to collect the final banana before landing safely in the exit. "Do you have to get there before Kong does? No? Oh, I suppose I was playing with you a bit with that," grins Matt.

ORE REFINERY

"Are those lumps of ore? Probably," says Matt. "And you'd imagine a skull and crossbones not to be the target, but it is!" Despite Willy holding one over his shoulder on the cover of the second edition of the game, this level has one of only two ladders that appear in the game. It also has a lovely blinking eye. Any significance, Matt? "Oh ore!" he cries, cryptically. We admire Willy's well-timed, 'no going back' dash to the exit. "Oh yeah, you could've played for ages and get it wrong with that. Ha! I'd draw the platforms on graph paper and put arrows in where… No, no I didn't," he says, correcting himself. "I didn't use graph paper for *Manic Miner*. I wrote an editor on the Tandy for it. I wasn't using graph paper for level design, I was painting them in and playtesting them. I'd do a bit and see if it was possible to get past that. Then I'd add the next bit." And so his masterpiece evolved…

THE MAKING OF... MANIC MINER

SKYLAB LANDING BAY

This level was always our undoing. The random falling objects instilled such panic in our young fingers. "Nope, it's all in a set sequence," Matt explains. "If you tape record this screen, it should be the same on every version. You can learn the pattern." His mind moves on to higher things. "Skylab was launched the year before and it crashed and burned… for the usual reasons. I don't know what they're going to do with the international space station when they can't afford to refuel it. I reckon they'll send it off into a higher parking orbit when they're finished with it… too big to crash and burn." Erm, and the keys on this screen? "Oh, they're computer chips." I notice Matt's fingers are twitching and then he starts making plinky plonky noises, while indulging in some inspired 'air gaming.' He still loves his baby…

THE BANK

We both smile at the rubber cheque on this screen. "Oh, cheques bounce," says Matt, ruefully. The ladders are back, too. "Yeah, that's a trellis. Left and right are the same character. I think you could only use eight different characters on each screen. Or was it four? *Jet Set Willy* was four, I think. That was even more primitive in some ways. The keys were stored separately. Were they? I can't remember. No, no they weren't. You could have a room full of 'em. The ladder was made from reusing a trellis character. There's no flipping in this – the line has to be up the middle. If they're flipped, they have to be stored twice in memory. You bit flip it and it's a completely different number. Flipping is an expensive operation on the Spectrum. Well, horizontal flipping is. Vertical is okay. That's just a memory location." We nod and hope you coders followed all that.

SIXTEENTH CAVERN

"I'd run out of names. Or maybe I was thinking in hexadecimal and thought it didn't need one," says Matt. And what are those enemies? "Flag bugs! In the code. If flag bug equals…" He thinks for a while. "Did they do anything special? No? Perhaps they were meant to. The graphics weren't saved as files, it was done by numbers. I was putting it into video memory. I laid out the levels using the editor but I was doing the graphics on graph paper. I didn't have BOUGIE (Byte Orientated Universal Graphics Interactive Editor) then. A thing I wrote that let me run through four frames of animation, forwards or backwards. Skylab is an exception. They have eight frames for the explosion, but the normal was four." And the keys? "That was an attempt at credit cards," he says. We note the need of collecting the key nearest the exit last, lest poor Willy is trapped with a depleting air supply. "It's not good to have tricks like that. Sometimes you can't resist it," he beams.

THE WAREHOUSE

"This was another experiment that I thought was so impossibly hard it would do nicely as a killer… a boss level!" he explains with a malevolent cackle. "I only ever completed this once [Pedants note, last time we met he confessed to never having completed it]. "Now I've had more practice maybe I could do it in half a dozen goes. With moving things and collapsing floors it's very hard to measure whether something is possible. Because everything is pre-determined, if it's possible once, it's possible for everyone. That's the only way you can really know that you're not on a bum steer." The lawn mower threshers on this level changed into the Software Projects 'Impossible Triangle' logo at the same time the Bug-Bytes were ditched. Or at least, that was the plan…

AMOEBATRONS' REVENGE

The tentacles are back in a reprise of Level 9, though they now seem to resemble the invaders from *War Of The Worlds*. "I thought they were jellyfish but yeah, maybe they have evolved into a higher life form," muses Matt. The difficulty has also grown. "This screen has all the different speeds the enemies can move at, up to four pixels a frame. I did the same sort of thing in *Jet Set Willy* for the Kitchen, but split it over two screens."

THE FINAL BARRIER

We're almost home. And with the sun setting romantically over the lake, it never looked sweeter. "Yeah, I'm playing around with colour clash here. The graphics are sort of better. I had more freedom because there wasn't any interaction. If you're on screen 20, put the title screen graphics on the top half and you don't have to worry about 'em. I did do this screen on graph paper, then cut it up into characters and worked it out in hex in my head. No art packages or scanners back then!" Is that a lucky horseshoe signifying the final exit? "Nah, it's omega – the end!" And the fish and dagger that rewarded the heroic few? "Oh, just things I'd drawn that were only eight pixels high and 16 across and I hadn't used in the game," he says casually. But Matt, at the Screenplay Festival a few years back, and admittedly after a few beers, you went on about its religious connotations, that it was your attempt to give gaming a "little bit of folklore"? He takes one last drag of his roll-up. "It might have," he smiles. "You'll find out in my next broadcast…" Ah, if only…

SOLAR POWER GENERATOR

Was this a sign of your growing environmental awareness then, Matt? He has a wild, far-off look in his eye. "No more than any other rational person. I'm worried about the environment, man…" he answers in that Neil voice. "I think this is one of the brightest backgrounds. Up till now, I think I'd only done one of the four dark colours. Mainly black." Nice solar-ray effect. Was it tricky to create? "Ooh, highly technical," he laughs. "Nah, just a little bit of code. Easy enough to program. One character wide, go down and if it hits something, go that way – always at a right angle. The Spectrum can only do right angles in colour. Get it bouncing around. They'd call it artificial intelligence now. Doesn't kill you but it sucks your air down when you're in the beam. It's sort of complicated and you do run out of air, but it's not a particularly hard level." We can't be the only ones to strongly disagree…

CHAS

INSTRUCTIONS

BACK WHEN COPS AND COOL CARS WERE ALL THE RAGE ON TV, TAITO GAVE US THE OPPORTUNITY TO LIVE OUT OUR FANTASIES OF TAKING PART IN A HIGH-SPEED PURSUIT. NICK THORPE HAS BEEN DISPATCHED TO INVESTIGATE THIS CLASSIC COIN-OP...

» [Arcade] Smashing through roadblocks, boxes and other such obstructions is all part of the police chase fun.

Police chases are amongst our guiltiest of pleasures. Are they exciting? Yes, without a doubt – but they're also extraordinarily dangerous for everyone involved, from the escapees and their pursuers to the dozens of innocent drivers and passengers in their path. Fortunately, videogames allow for us to indulge in these forbidden pleasures without putting anyone else's life in jeopardy, and in the late Eighties there was no better way to participate in a police chase than to drop some change into *Chase HQ*. You play as Tony Gibson and Raymond Broady, members of the police's elite Chase HQ department, who are tasked with tackling the high-speed pursuits that other officers just aren't qualified for.

In many ways, the premise made it a perfect game for its time. The Seventies had produced great car chase films as well as *Starsky & Hutch*, but the

C.H.Q.

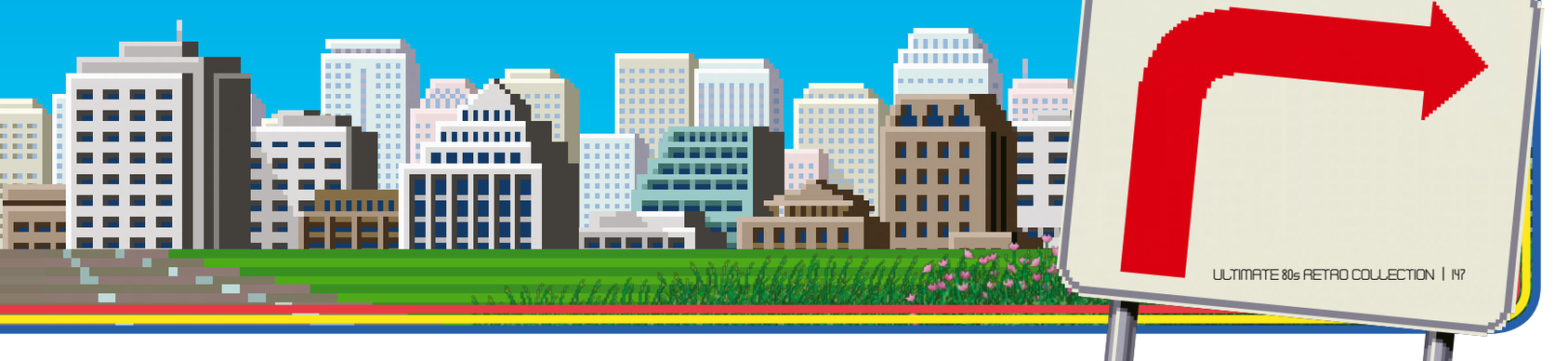
» [Arcade] You'll often set criminal cars ablaze by ramming them, but they never spontaneously explode like in the movies.

» [Arcade] You'll know when you've found your target, thanks to a red warning and large arrow.

Eighties was the era where they were all over TV in popular cop shows. Where American muscle cars were often the focus of the chase movies, shows like *Magnum, P.I.* and particularly *Miami Vice* often featured European sports cars, including the likes of Porsche, Ferrari, Lamborghini and Lotus vehicles. Taito took major inspiration from these sources for *Chase HQ*, incorporating similar cars and a definite American theme. In particular, the designers focused on Porsche – two of the five enemy vehicles are from the German manufacturer, and Gibson and Broady used a Porsche 911 exclusively.

As a game, *Chase HQ* is superficially similar to many other Eighties racers – the powerful sports car, scaling traffic and time limit are all present and correct, after all. All of these elements had been present in Taito's *Full Throttle*, a 1987 arcade racer which was clearly influenced by the success of Sega's hit *Out Run*. Its main innovation was allowing the player three turbo boosts per checkpoint, which had to be strategically deployed on straight roads and low-traffic stretches. It wasn't a revolutionary game by any stretch of the imagination, but it did well for Taito.

Chase HQ incorporates all of those elements, and then plunders a little more from *Out Run* by incorporating forked roads. However, *Chase HQ* was no simple exercise in following a trend. What sets *Chase HQ* apart is your two-part goal of locating and then immobilising a target vehicle, driven by ▶



CHASE H.Q.

» [Arcade] Ramming enemies is most effective when you've engaged a turbo boost.

Q&A: MARK EDWARDS

WE CHASE DOWN THE MAN BEHIND THE GRAPHICS OF THE 16-BIT COMPUTER CONVERSIONS

What did you think of the original arcade game?
I loved it. At the time there were many arcade racing games but this had a unique twist. It also held a subtle [old-school] TV style look to the game and this was something I was brainwashed with as a kid. My dad was also in the police force, so maybe this helped!

Why was Teque Software commissioned to create the 16-bit ports by Ocean?
Our MD, Tony Kavanagh, had links with Ocean, especially Gary Bracey at the time. Krisalis had a name and a knack for arcade conversions with the likes of *Toobin*, *Scramble Spirits*, *Continental Circus* etc...

What was hard about working on the Atari ST and Amiga versions?
As with all conversions, copyright logos and style are of the utmost importance. I remember struggling to get the loading screen right and this created many a laugh with my fellow artists.

How much support did you receive?
Very little I feel. All feedback came back via Ocean. Back in those days game development was easier in many ways. We had little feedback compared to what I'm working on now – *Dead Island 2*...

Who worked on the project and how long did it take?
From what I remember we had around six months to convert it to all formats. This was quite a feat for all projects we were handed and something I'm proud of with such a small development team.

Did you create the loading screen and were you aware the main character is based on Han Solo?
I did indeed, and no I didn't know this... I really struggled with the lips as far as I can remember!

What's the best anecdote you can remember whilst working on *Chase HQ*?
Whenever I think of *Chase HQ* I always think of the struggle I had drawing those lips! I really enjoyed those times, much more so than now. Krisalis was a great company to work for.

The scores at the time ranged from 55% to 90%. Were they a fair reflection of the game?
I think so, it's a fair result given the time we had to extract graphics from the arcade version and convert to the many formats.

How do you think your version holds up today?
I'm pretty shocked to see it now after going though 20+ years of game advancement. At the time it had charisma and a certain look, as mentioned. It's lovely to think some old folk still love this game and [it's] something I'll always treasure.

Why do you think *Chase HQ* remains so popular?
Back in those days there was a *lot* of competition. Fortunately, we had a unique advantage with an arcade conversion. A game that was thoroughly tested and embedded in the Nineties kids. How could it ever fail, given a good conversion!

▶ a lowlife criminal. This isn't a simple endeavour, mind – you need to avoid the many law-abiding citizens using the road, both to ensure their safety and ensure your target doesn't get away. Each successful overtake awards 200 points more than the last, rewarding you for clean driving. However, clean driving goes out of the window when you finally reach the bad guy, as your only option for taking down the perp is to ram his car off the road.

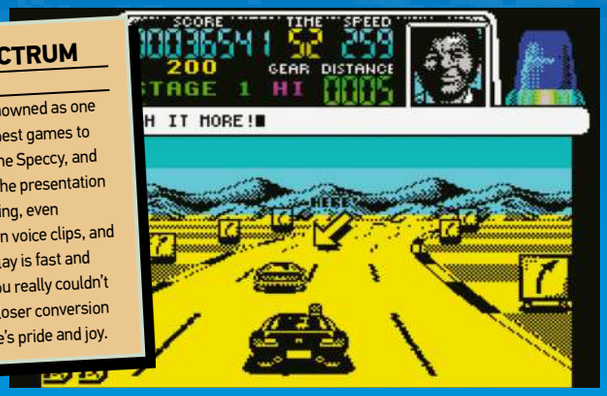
A large part of what makes *Chase HQ* so good is the excellent presentation of the game. At first glance, you might think that it doesn't advance the genre over *Out Run*, given the relatively similar sprite scaling technique. However, it soon reveals itself to be even more visually impressive. The game incorporates proper tunnel sections, split-level road drawing to properly represent ramps, and excellent incidental animations such as a helicopter hovering overhead to help scope out your route. Likewise, the ace music could have come out of any American cop show of the era, particularly the bassy tune that plays during the briefings you receive from Nancy, the Chase HQ radio dispatcher.

Speaking of Nancy, her mission briefings are a joy to sit through thanks to the full voice acting provided for each stage. Brilliantly, even the crimes she tells you about reflect the preoccupations of the time, as you can see from the inclusion of drug pushers ▶

» [Arcade] Civilian traffic has a tendency to obstruct your attempts at destructive justice

CONVERSION CAPERS

WE SORT THE GREAT LITTLE RUNNERS FROM THE CLAPPED-OUT CRAP



ZX SPECTRUM
1989

■ This is renowned as one of the very best games to appear on the Speccy, and rightly so. The presentation is outstanding, even squeezing in voice clips, and the gameplay is fast and smooth. You really couldn't ask for a closer conversion on Sir Clive's pride and joy.

AMSTRAD CPC 1989

■ It's not as quick as the Spectrum version, but the difference is no huge deal and in every other respect this is another amazing conversion. It packs in everything else that makes that version great, and the colour graphics give it a edge over its 8-bit rivals.

COMMODORE 64 1989

■ If the people behind *Chase HQ* for the C64 were actually in *Chase HQ*, you'd be ramming them off the road for the murder of a classic. Not only is it visually underwhelming, it's so slow that your crime-fighting efforts would be better carried out on foot.

MSX 1989

■ This looks like the Spectrum version, but don't be fooled – it's slower and doesn't include much of the brilliant presentation. It's better than the C64 version, but that's not saying a lot. It's also quite a rarity, having been released in limited parts of Europe.

AMIGA 1989

■ There's little to differentiate between the Atari ST and Amiga conversions of *Chase HQ*, which means you're good with either. To be honest, though, it's made to look a bit poor by *Lotus Turbo Challenge* and the driving sections in *Batman: The Movie*.

ATARI ST 1989

■ This conversion was developed by Teque, the same company behind the C64 version. The game fares better on the ST – it looks nice in static shots, but it does run slowly and the handling is poor. There are better conversions out there, so play those instead.

FAMICOM 1989

■ This is an attractive conversion for the 8-bit console, complete with speech and support for the analogue *Arkanoid* controller. It also goes a step beyond the arcade game by allowing you to trade your points for new car parts between stages.

MASTER SYSTEM 1990

■ This is a pretty good conversion. It's based off of the Famicom version, and includes the same upgrade options. It's fast and attractive, but the scenery lacks variety due to the flat roads and total lack of tunnels. This version is exclusive to PAL regions.

PC ENGINE 1990

■ This is a fast and nice-looking conversion featuring good music, nice visuals and most of the arcade game's luxuries. Most of the corners seem a bit severe and the engine noise is rather annoying, but this is definitely one of the better versions out there.

GAME BOY 1990

■ The game doesn't look too bad in monochrome, but *Chase HQ* on the Game Boy is poor. It doesn't handle very well, and in a driving game that's a ruinous problem. *Super Chase HQ* is a far better take on the same idea for this format, so play that.

GAME GEAR 1991

■ The *Chase HQ* experience on Sega's handheld is almost exactly the same as on the Master System, to the point that it runs in the hardware's Master System graphics mode. The only difference is a redrawn HUD that looks better on the small screen.

SHARP X68000 1992

■ This Japanese computer is renowned for some excellent conversions, but *Chase HQ* isn't one of them. Object movement is jerky and the scenery has been rendered horribly bland, with no off-road sections or forks in the road. The music is pretty good, though.

SATURN 1996

■ You'd expect an arcade-perfect conversion here, but it's different to the coin-op original, with redrawn sprites and differences in visual effects. It's still the closest home version – just don't expect the near-identical closeness of a *Sega Ages* conversion.

FM TOWNS
1991

■ Here's an astonishing conversion, which is very close to the original. The view is a bit narrow and the scaling isn't as smooth, but in all other respects this is utterly superb. However, the hardware trickery used to run this causes some persistent colour glitches.

CHASE H.Q.

PIXEL PERFECT

CALLING ALL CARS... REPORT TO THE DOUBLE-PAGE SPREAD IMMEDIATELY

» [Arcade] This whirlybird will help you out by telling you where the criminals are headed next.

» [Arcade] Tunnel effects were a noticeable improvement over previous arcade racers like *Out Run*.

▶ (a year before the debut of the 'winners don't use drugs' screen) and Eastern bloc spies (a year before the fall of the Berlin Wall). She'll also warn you if you're running low on time during a stage, and that's not the only voice acting you'll be treated to. Your partner will often encourage you with phrases like, "Let's go, mister driver," and has individual lines for each of the game's five arrest scenes.

The success of the arcade game was immediate upon its release in 1988, and Taito quickly seized on its popularity with a series of home conversions. For the European home computer market, rights were granted to the licensing powerhouse Ocean, which managed to stage an impressive multiplatform release in 1989. As well as covering the usual 8-bit and 16-bit machines, an MSX version was produced for continental Europe which was distributed by Erbe Software. If you're surprised by the fact that it wasn't a Japanese release, that's because Taito wasn't tremendously proactive in chasing the domestic home computer market – two versions were released by different companies for the high-end computers of the time, with wildly different results.

Instead, Taito concentrated its efforts on the home console market. The PC Engine received a relatively straight conversion, but the Famicom, Master System and Game Gear versions all offered a somewhat deeper experience – perhaps in recognition of the fact that the arcade game only lasted ten minutes once mastered. The five stages of the arcade game were repeated three times, and points could be traded for car upgrades between rounds. Your oil, tyres and bumper could all be upgraded, while extra turbo boosts and a supercharger could be added to give you the speed needed to bust some of the tougher criminals.

Most of the elaboration on the *Chase HQ* formula would come through sequels, though. *Special Criminal Investigation* followed the same 'pursue and destroy' formula, but gave you the option of shooting the criminal vehicle with a gun. It was another popular game but one which didn't receive the wide home release of its predecessor. *Chase*

LOTUS ESPRIT

LAMBORGHINI COUNTACH

"At the time there were many arcade racing games, but this had a unique twist"

Mark Edwards

HQ II for the Mega Drive introduced a choice of player vehicles, allowing you to trade in your sports car for a slow but devastating truck, and the second arcade sequel, *Super Chase: Criminal Termination,* retained this option but shifted the action to a first-person perspective. *Super Chase HQ* for the SNES would also adopt this viewpoint.

By the mid-Nineties the appetite for *Chase HQ* had waned, and Taito pursued other ventures – but it did bring the series back a couple more times later on. In 2000, *Chase HQ: Secret Police* for the Game Boy Color adopted the *Special Criminal Investigation* mixture of driving and shooting, but added an odd tactical map section in which you place officers around town and try to intercept the criminals prior to the main chase. The arcade game *Chase HQ 2* arrived in 2007, and it offered full-3D visuals ▶

» [Arcade] Time of day effects are a big part of *Chase HQ*, showing the passage of time during your pursuits.

Q&A: BILL HARBISON

WE SPEAK TO THE GRAPHICS ARTIST BEHIND SPECTRUM AND AMSTRAD VERSIONS OF CHASE HQ

What made *Chase HQ* such a good game to play?

It was a fast, slick arcade game which wasn't just about driving towards a goal. It had an extra layer on top which made it all the more playable. Without the addition of catching the criminals by bashing their car off the road *Chase HQ* would have been just another *Out Run* clone. So when myself and Jon O'Brien were informed that we would have to try and cram this beast into a ZX Spectrum we didn't take the job lightly. We wanted to do the best job we could, our job was to outrun *Out Run*!

Were you aware of the poor reception that the *Out Run* conversions had received and did you want to improve on that with *Chase HQ*?

Before I got into the industry I remember getting a cover tape with a magazine containing a playable demo of *Out Run*. It was crushingly disappointing! The car was nicely drawn and some of the other objects were fine but it wasn't particularly playable. It was slow and the roads were badly defined. There had already been superior racing games, like *Enduro Racer,* on the market and even further back there was *Full Throttle*. I think I probably played it just the once before taping over the cassette with something else. It seemed to me at the time that it wouldn't receive favourable reviews, although I now understand that it has its fans.

A few months before starting on *Chase HQ* I had worked on a racing game that was superior to *Out Run*. That was *WEC Le Mans*. If we managed to make *Chase HQ* as good as that we would have been onto a winner.

How did you become involved with the Spectrum and Amstrad ports?

I was working on *WEC Le Mans* which was coded by Sentient Software with Ocean's Mike Lamb. I was at a loose end after finishing by previous game and was brought on board to help with the graphics. While this was happening, Gary had employed Jon O'Brien who was working with Mike on the game engine and when *WEC Le Mans* was finished I moved over to *Chase HQ* full time.

How much access did you have to the original coin-op?

We were told about the game but I hadn't seen it before and before long the cabinet arrived at the office and caused quite a stir. I used to sit in the seat with an A4 pad and sketch the frames for the cars and the other graphics in the game. Within a couple of weeks the cabinet was taken away and we were left with the circuit board and steering wheel hooked up to an old TV. At least we had access to the game and we didn't have to pay a penny to play it.

What differences where there between the 64k and 128k versions?

We managed to squeeze just about all the game into the ZX Spectrum with a few additional details like the character portraits and the ending. The portraits were mostly based on Ocean employees like Steve Thompson, Martin McDonald and Kane Valentine, while Nancy was based on Dallas Cowboys cheerleader Dorie Braddy. The ending was renditions of publicity shots from the, soon to be released, *Lethal Weapon 2*. The only additions to the 128k version were the superior music and digitised speech.

Because of the added colour we feel the Amstrad version is the best, is this something you'd agree with?

The extra colours make the game graphics look much brighter but the double-width pixels meant that some detail was lost on the cars and character portraits. It also seems like the Amstrad version is slightly faster, too.

Was there anything about the conversions that you weren't happy with?

I would improve be the enemy intro screen with the radio message. It's a little basic compared to the arcade version.

Why do you think it's generally considered as one of Ocean's best conversions?

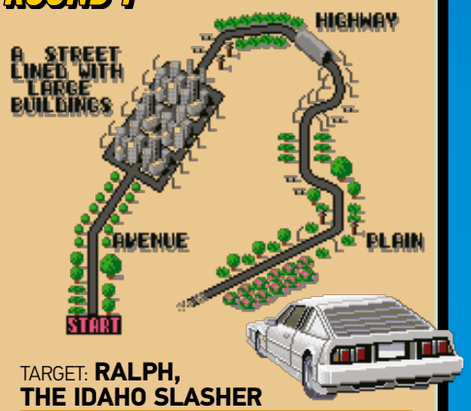
I think we managed to capture the spirit of the arcade and make it fast and smooth – and bouncing title screen. Little touches like that show that we wanted to do the best job that we could.

CHASE H.Q.

CASE FILES

FIVE DANGEROUS CRIMINALS NEED APPREHENDING IN CHASE HQ – HERE'S THE FULL LOWLIFE LOWDOWN

ROUND 1



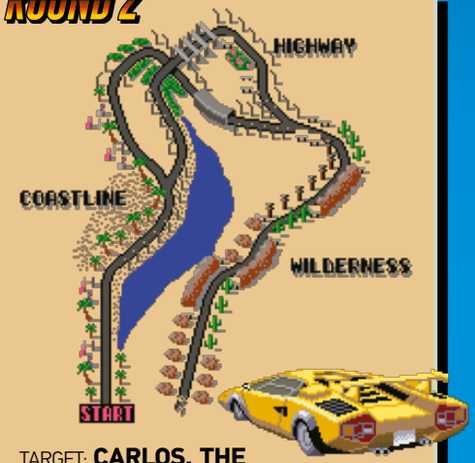
TARGET: **RALPH, THE IDAHO SLASHER**

WANTED FOR: FIRST-DEGREE MURDER

■ If this chase is actually taking place in Idaho, it can only possibly be Boise – it's not exactly a state known for its large urban communities, and this stage will take you from a lovely garden avenue straight into the city streets. Going right at the junction will take you off-road, slamming through construction barriers and shrubbery before heading out onto a cloudy plain. That's where you'll encounter the murderous Ralph.

» [Arcade] Quick! Ralph is making his escape and attempting to flee. Ram him off the road before he can do so.

ROUND 2



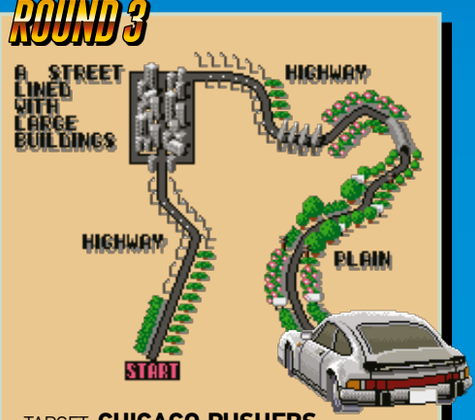
TARGET: **CARLOS, THE NEW YORK ARMED ROBBER**

WANTED FOR: ARMED ROBBERY AND MURDER

■ Carlos has wandered far from his home in the Big Apple, as the sunny coastline here suggests California. You'll get help from the helicopter in this stage, which hovers overhead before you reach the junction, where you can take the tunnel onto the highway or the ramp. You'll most likely catch up with our esteemed armed robber in the desert, where he's making a break for it in a flashy yellow car. Way to draw attention to yourself, dirtbag!

» [Arcade] Carlos would have possibly gotten away with armed robbery, but he was thwarted by a large yellow arrow…

ROUND 3



TARGET: **CHICAGO PUSHERS**

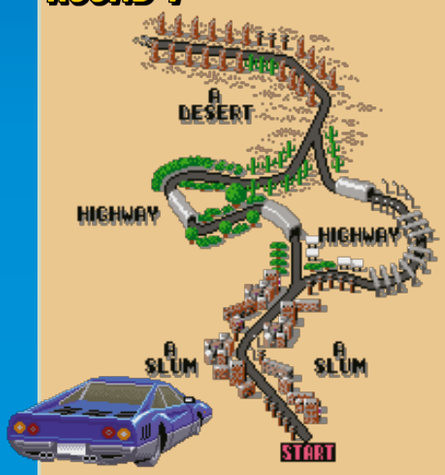
WANTED FOR: SELLING DRUGS

■ This place looks a bit like Chicago, so it seems we've caught our dealers pretty soon in their bid for freedom. You'll start off late in the afternoon, and it's quite a chase because when you've finally gone off-road via the left fork and caught up to the bad guys, the sun is setting and the sky is a beautiful shade of orange. Walter White should never have moved to Chicago!

» [Arcade] It's too nice an evening to chase criminals, but you've got a job to do and by gosh you're going to do it well.

> "It was a fast, slick arcade game which wasn't just about driving towards a goal"
> Bill Harbison

ROUND 4



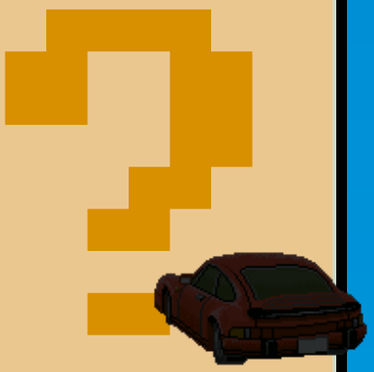
TARGET: **LA KIDNAPPER**

WANTED FOR: KIDNAPPING

■ It's already early evening as you race out of the slums, and this jerk is in a powerful car so don't expect to catch him before nightfall. You'll have help from the chopper again here, and if you head up the ramp on the right you'll take the freeway out to the desert. For some reason, it's fine to ram into a kidnapper's boot, despite the likely presence of the kidnapping victim, so just go for it.

» [Arcade] The kidnapper's car took such a bashing, Gibson and Broady couldn't open the boot. We're sure everything was okay…

ROUND 5



TARGET: **EASTERN BLOC SPY**

WANTED FOR: ESPIONAGE AND FIRST-DEGREE MURDER

■ You don't get a map for this early morning chase, nor do you know what the spy's car looks like. Ultimately, that means that he's doing a pretty good job as a spy. Thankfully, you're able to identify him in a bright red car, rather than the standard issue Lada Riva or Trabant that his comrades back home have to put up with.

» [Arcade] Despite having guns, Gibson and Broady kept forgetting to use them. At least until the sequel…

» [Arcade] The game takes place in diverse settings from out-of-town freeways to inner-city slums and the suburbs.

▶ with a light cel-shaded look, with new features including power-up icons and oncoming traffic.

While seek-and-destroy racers aren't tremendously common today, the gameplay style has been incorporated into a variety of other racers. You can see traces of *Chase HQ* in the likes of *Driver*, which has a Pursuit Mode, some *Grand Theft Auto* missions, the *Burnout* series since *Burnout 3: Takedown* and, of course, *Need For Speed: Hot Pursuit*. The nearest equivalent in recent times though was the *Pursuit Force* series for the PSP, which takes the *Special Criminal Investigation* template and adds more vehicles plus some straight shooting sections.

So while *Chase HQ* series is currently in its longest period of inactivity, having been dormant since 2007, it's clear that the impact it made in the late Eighties is still being felt today. After all, why shouldn't it be? Any game that lets you live out your *Miami Vice* fantasies is fine by us, as is anything that lets you pull off a police chase without endangering lives. ★

» [Arcade] Everyone has turned up to see you receive your reward for completing the game. All that's missing is a roaring wookie.

AMIGA 500

While some of its best games didn't arrive till the Nineties, the Amiga was an Eighties machine at heart. David Crookes runs down its top 25 titles

Datastorm

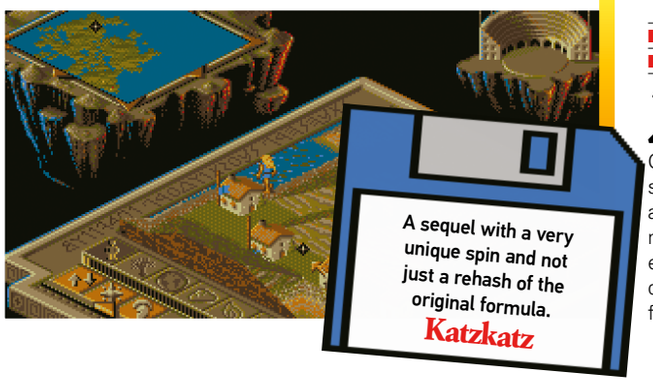
■ **DEVELOPER:** VISIONARY DESIGN TECHNOLOGIES
■ **YEAR:** 1989 ■ **GENRE:** SHOOT-'EM-UP

25 **This *Defender* clone** may have lacked true originality but it sure made up for it with sheer, fluid speed and flawless execution. Varied enemy armies spawned in their droves as you hurtled through the horizontally-scrolling landscape in search of eight pods, and unless you had lightning fast reactions to avoid and blast them away, early death in a thousand colourful pixels was inevitable. *Datastorm* pushed the Amiga's technology to the max.

Populous II: Trials Of The Olympian Gods

■ **DEVELOPER:** BULLFROG
■ **YEAR:** 1991 ■ **GENRE:** GOD SIM

24 **Although some may** say *Populous II* is a classic game but only by association of the original, its release in 1991 came during a golden, defining era for god-sims. This direct sequel was not a major departure from the debut of two years previous but, in keeping the core and the isometric view and expanding upon them with more options, what was in effect a grandiose game of chess offered much greater scope for re-playability. Attempting to become a powerful deity via the power of point-and-click has seldom been more fun.



A sequel with a very unique spin and not just a rehash of the original formula.
Katzkatz

It Came From The Desert

■ **DEVELOPER:** CINEMAWARE
■ **YEAR:** 1989 ■ **GENRE:** ACTION-ADVENTURE

23 **Undoubtedly inspired by** the big bug B-movies of Fifties America, *It Came From The Desert* was Cinemaware at its best, delivering finely-tuned slices of strategy, graphic adventure and arcade action. The game was as close to an interactive movie as 1989 was capable of delivering with each of the 20 locations perfectly capable of drawing in the player and keeping them going for long sessions at a time.

> Although I enjoyed *Captive* and *Eye Of The Beholder*, I felt *Hired Guns* beat them all in terms of atmosphere
> **U-1**

Hired Guns

DEVELOPER: DMA DESIGN
YEAR: 1993 **GENRE:** RPG

22 **Spanning five disks,** *Hired Guns* was a huge game showcasing equally sizeable ambition. DMA Design had carved out a solid reputation for scrolling shooters (and *Lemmings*, of course) but in *Hired Guns*, it was able to deftly combine a shoot-'em-up and an RPG, satiating the needs of two sets of players. Death lurked around every corner and the 19 3D levels heaved with free-moving enemies. Even though it bore similarities with *Dungeon Master* and *Captive*, it proved to be groundbreaking. The screen was split into four, each allowing different character perspectives and separate movement which was unheard of at the time and the game was also blessed with the killer combo of amazing graphics and incredible sound, the developer very much finding its feet in the third dimension. Little wonder that critics and gamers poured such lavish praise on it, with more than one reviewer at the time calling it an instant classic.

Wings Of Fury

DEVELOPER: UNLIMITED SOFTWARE
YEAR: 1990 **GENRE:** ACTION

21 ***Wings Of Fury*** was originally a well-received 8-bit action-sim that had turned many a head on the Apple II. Three years later, it was being ported to various machines including the Amiga, but it cut gamer opinion in half (*Amiga Action* went as low as 39 per cent; *Amiga Power* up to 88). It is easy to see why. *Fury* had a difficult learning curve thanks to the realistic 'sim-like' way it approached the controls which made landing the plane quite baffling at first. The speedy advances of gaming also meant the cute, cartoon graphics of *Fury* looked instantly dated – more so now – especially given *Shadow Of The Beast* was demoing Amiga graphics at the time. But *Fury*'s gameplay, while repetitive, stood up well. The World War II flight missions pitted players against the advancing Japanese and there was much weaponry to drawn upon. It suited players with fast reactions because it could get rather hectic.

Dungeon Master

DEVELOPER: FTL GAMES
YEAR: 1987 **GENRE:** RPG

19 **Initially released as** a 1,024K-only game, the long-awaited Amiga port of this Atari ST classic flew off the shelves. *Dungeon Master* was a real-time, mouse-controlled RPG with 14 imaginative levels and some very spooky warning sounds when an enemy came close to you.

The Settlers

DEVELOPER: BLUE-BYTE SOFTWARE
YEAR: 1993 **GENRE:** REAL-TIME STRATEGY

18 **It isn't always** easy to inject personality into tiny gaming characters but *The Settlers* cracked it. In asking players to build and run a thriving city, it took a blend of *Populous* and *Sim City* and made strategy games beautifully accessible. Lovely jaunty music too.

Stunt Car Racer

DEVELOPER: MICROSTYLE
YEAR: 1989 **GENRE:** RACING GAME

17 **Viewed from the** cockpit of a supercar with its roaring metallic engine and thick tyres in full view, *Stunt Car Racer* provided challenging, gap-strewn elevated tracks full of twists and turns that would have you gripping the joystick in fear. Geoff Crammond pulled a blinder and got his name on the box.

Rainbow Islands

DEVELOPER: TAITO
YEAR: 1990 **GENRE:** PLATFORM

16 **As cute coin-op** conversions went, *Rainbow Islands* on the Amiga was as faithful as they come. The game perfectly replicated the classic platformer, ensuring baddies were splatted by colourful rainbows and and it became the first ever number one in *Amiga Power*'s All Time Top 100 list.

Hunter

DEVELOPER: TAITO
YEAR: 1995 **GENRE:** SHOOT-'EM-UP

15 **Activision's crudely-drawn** yet slick 3D epic allowed gamers to wander around a digital world, shooting people and choosing from more than 15 vehicles to drive and smash to pieces. If that sounds a tad like *Grand Theft Auto*, then it's little wonder – with hindsight, the two have been compared.

Lotus Esprit Turbo Challenge

DEVELOPER: MAGNETIC FIELDS
YEAR: 1990 **GENRE:** RACING

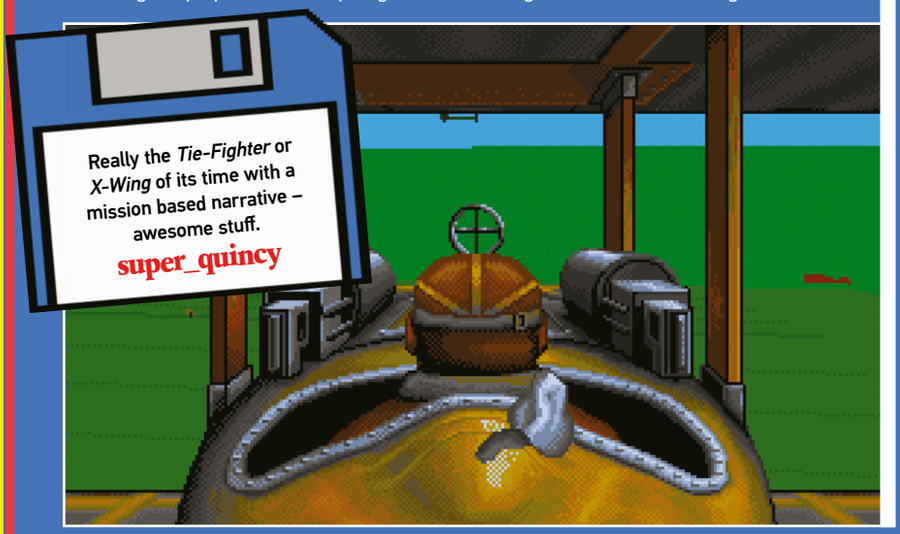
20 **Of all of** the *Lotus Esprit Turbo Challenge* versions, the Amiga's stood out the most, not least because it had more race tracks than on the other platforms – with 32 in total – as well as the best graphics by some distance. It also had intricate details such as brake lights, incredible speed and a choice of audio which, coupled with precision controls, 19 rival racers and the need to finish in the top half to progress, made for some exhilarating races. In the process, the game became a benchmark for racing games on the Amiga. It was not just the level of ideas that were included such as pit stops, two different types of joystick control and the ability to use a mouse. For many, the key was the split-screen action that allowed for blistering two-person play without any noticeable on-screen slowdown. It was disappointing that single-player games would not take up the entire screen but this genre was, at the same time, new ground for Gremlin and it learned quickly (this issue was rectified in the sequel). Buoyed by the game's success, Gremlin went on to release many other driving games, *Super Cars* and Nigel Mansell's *World Championship Racing* being most notable.

> "It was good that the Amiga wasn't really a 3D machine. It forced you down one route, but you got excellent results"
> **Shaun Southern, coder on Lotus Esprit Turbo Challenge and Super Cars II**

Wings

DEVELOPER: CINEMAWARE **YEAR:** 1990
GENRE: FLIGHT SIM, INTERACTIVE MOVIE

14 **With a Kickstarter** project having been successfully funded, Cinemaware is close to releasing a remastered version of this interactive movie/flight sim. Given the original game suffered from mass piracy back in 1990, the company deserves the extra cash injection from this latter-day classic but it is also great to see that the gameplay of the revamped game will be very similar to the original. Once again, players will be put in the cockpit of an SE5 biplane during the First World War and allowed to assume an alter ego. *Wings* required the completion of more than 230 missions over a two-year time period. It involved exciting dogfights as well as the absorption of lots of historical bits and bobs which lent much context to the proceedings. Some of the info could get a little tiresome but the overall package was well designed and proved a top-notch addition to the Amiga's exclusive roster of games.



Then who keeps up the law and maintains order?
Then who eats the donuts and roughs-up the transients?
Please! Not in my new coat!
OK, put me down now and I won't have to hurt you.

Monkey Island 2: LeChuck's Revenge

DEVELOPER: LUCASARTS **YEAR:** 1991 **GENRE:** GRAPHIC ADVENTURE

13 **After the debut** of LucasArts' hilarious point-and-click classic had gone down so well with players, a sequel was inevitable and director Ron Gilbert ensured no one who bought *Monkey Island 2* was disappointed. Just opening the box and spotting an abundance of disks was enough to overawe most gamers but *MI2* was all about delivering more. There was more hair on Guybrush's face, more detail in the graphics, more humour and more silliness (check out the ending which prompted a flood of complaints). And as Guybrush set out to find the mysterious treasure of the Big Whoop, players could, for the first time in a point-and-click game, choose one of two difficulty modes. The sequel benefited from the debut use of LucasArts' new iMuse audio system.

The Chaos Engine

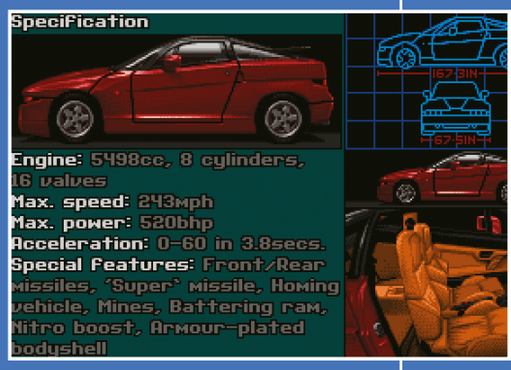
DEVELOPER: THE BITMAP BROTHERS
YEAR: 1993 **GENRE:** RUN-AND-GUN

12 **The Bitmap Brothers** had been marking its mark on the Amiga (and Atari ST) scene since 1987 and, having taken inspiration from a novel by William Gibson and Bruce Sterling called *The Difference Engine*, *The Chaos Engine* was a fine example of its later work. Players took their place in a group of six mercenaries keen to sort out the mess caused by a time traveller who, having found himself stranded in a late-17th Century steampunk England, had introduced new technology ahead of time and rewritten history. The result was an original top-down, run-and-gun game spread over four distinct worlds that was packed with puzzle elements including plenty of gold keys to open secret rooms, dynamite to destroy beetles and appearing bridges. As with most Bitmap games, the graphics were clean and well styled and the gameplay was accessible and addictive.

Super Cars II

DEVELOPER: MAGNETIC FIELDS
YEAR: 1991 **GENRE:** RACING

11 **Although Magnetic Fields** had proven itself more than capable of 3D-style racing games with *Lotus Esprit Turbo Challenge* (and had taken pole position as one of the world's best racing game developers for a spell), its release of the top-down racer *Super Cars* in the same year was attracting as much attention. *Super Cars II* was, therefore, inevitable and in sticking to a bird's eye view that had been a staple of many a racer throughout the previous decade, it not only retained fans of the first game but added so many more. Its lush graphics, blistering audio, weaponry, speed, exhaustive cornering and an emphasis on fun made it an essential Amiga purchase even for those who had bought the original. Much of this was due to its split-screen view for two-player head-to-heads and the three difficulty levels with seven tracks. The bizarre but brilliant cutscenes in which the player would be quizzed by various bodies, be it the police, a journalist or some other official person, also provided standout moments. Correct answers would boost the coffers needed for upgrades or get you extra championship points.


Specification
Engine: 5498cc, 8 cylinders, 16 valves
Max. speed: 243mph
Max. power: 520bhp
Acceleration: 0-60 in 3.8secs.
Special Features: Front/Rear missiles, 'Super' missile, Homing vehicle, Mines, Battering ram, Nitro boost, Armour-plated bodyshell

I never mastered this game fully but one of my friends did. Total control was everything but I still had great fun playing mates.
Nemesis

Kick Off 2

DEVELOPER: DINO DINI
YEAR: 1990 **GENRE:** SPORTS

10 **The original *Kick Off*** divided audiences upon its release in 1989, so it's not too surprising to see that it is the superior sequel that has made our readers' list. While that does put it behind *Sensible Soccer*, its main footballing rival at the turn of the Nineties, if *Kick Off* or its rather brilliant sequel had been left out of the top 25 altogether, it would have been extremely surprising.

With a bit of time spent learning the controls and understanding that the ball didn't stick to the players' feet (something that was, actually, very obvious from the off), patience paid off. If a friend had invested the same level of time in the game, then going head-to-head with a pal made for a rewarding experience, even if that experience was not altogether different from the first game. As a neat extra, use of an adapter would allow three or four players to get involved, with two gamers teaming up to play one team. This didn't work quite as well as perhaps Dino Dini would have liked but the effort was appreciated. It was tense as well, with the sudden death penalty shoot outs proving particularly nail-biting.

It appeared at times that Dino was packing the game with everything he would have liked from a football game. Players had great control and they could set time limits, skill levels, tactics and pitch types. They could even design the kit. There were eight international teams that could play in a league or a cup. While *Kick Off 2* wasn't going for extreme realism – there was no offside rule for a start – it felt like a high tempo English match. It emphasised keeping possession. This was achieved not by dribbling around a huge number of players but through passing and ensuring the ball edged up the field into scoring positions. As a result it proved extremely popular, with many considering it Dino Dini's finest hour. In aiming to replicate football's thrill and excitement, scoring in *Kick Off 2* felt like a genuine triumph and there is no doubt it was a winner.

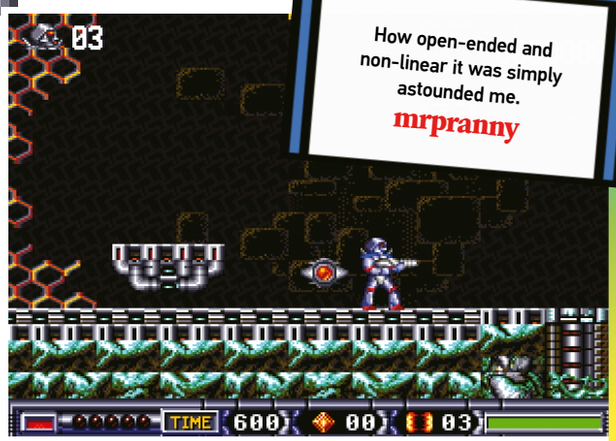
2 H.H.DAY

MicroProse Formula One Grand Prix

DEVELOPER: MICROPROSE
YEAR: 1992 **GENRE:** RACING GAME

9 **With Gremlin/Magnetic** Fields going for all-out arcade action, MicroProse took a realistic approach to racing. Geoff Crammond spent months researching the look and feel of 16 real racetracks and the mechanics of F1 cars. The result was an accurate rendition of the sport that ran at an awesome speed. Unlike *Lotus Esprit Turbo Challenge*, the cars would sustain damage that would affect a race and mods would enhance or detract from the experience. The sheer level of detail, the need to put yourself through qualifying laps and the inclusion of proper tournaments set lofty new standards for racers.

How open-ended and non-linear it was simply astounded me.
mrpranny



Turrican II: The Final Fight

DEVELOPER: FACTOR 5
YEAR: 1991 **GENRE:** SHOOT-'EM-UP

8 **Vast is a word** often used to describe large games but *Turrican II* actually deserved such a description. Taking inspiration from a host of shoot-'em-ups and mixing them into one big pot, *Turrican II* had 1,500 screens broken down into 12 multi-directionally scrolling levels, each of which were full of hidden platforms, power-ups and traps. To keep gamers motivated (the game posed one tough challenge), the five worlds looked distinct from each other. It helped that gamers were able to approach the game in a gung-ho fashion or take a less mind-blowing approach by ducking away from the most fiendish of enemies. As long as the exit was found within a set time limit, the choice was that of the player. It was also, it must be said, a mapper's dream.

Sensible Soccer

DEVELOPER: SENSIBLE SOFTWARE
YEAR: 1992 **GENRE:** SPORTS

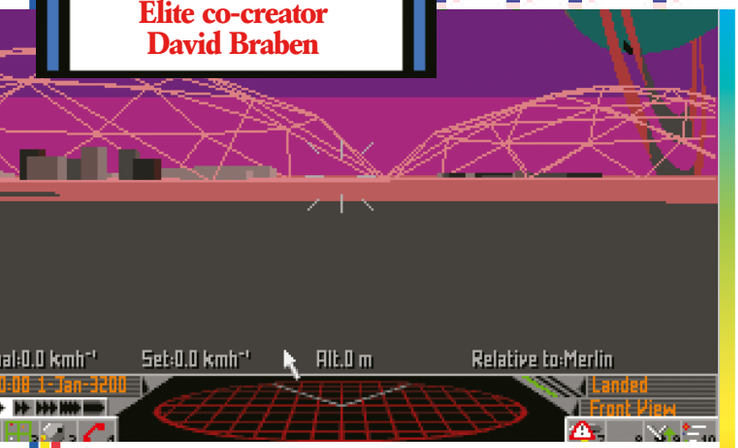
7 **At the turn** of the Nineties, the trend for football games had switched to a top-down approach thanks to the success of *Microprose Soccer* and *Kick Off*. It did not matter that they were not realistic renditions of the game, only that they played well. Duly noting this, Sensible Software, which had created *Microprose Soccer* and had spent much time with *Kick Off*, took the sprites from *Mega-Lo-Mania*, let them boot a ball around a pitch and created *Sensible Soccer*. With a one-button control scheme, a ball that wouldn't stick like glue to players, a top-down perspective that allowed a great view of the pitch, nine tournaments, 98 league and national sides and a cool aftertouch feature that controlled height and power, *Sensi* was a pure game of skill. In the first six weeks on sale it sold 43,000 copies…

"*Frontier* was special to me as it allowed me to greatly broaden what what *Elite* was about, adding the rich galaxy and the Cold War backstory"

Elite co-creator David Braben

"Having come through the 8-bit era, all of a sudden we had machines that were almost super-computers by comparison – the Amiga was king of them all"

Lemmings artist Mike Dailly



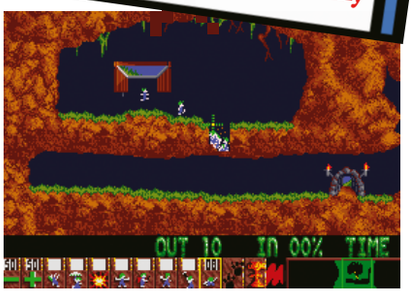
Frontier: Elite II

DEVELOPER: FRONTIER DEVELOPMENTS
YEAR: 1993 **GENRE:** SPACE TRADING

6 ***Elite* was an** 8-bit space-trading classic that regularly tops best game polls, but the 16-bit sequel that arrived nine years later won over fans of the Amiga. It had a huge gaming environment that no gamer could ever cover given that each of the 1 billion systems was up to 1.95 light years in diameter. This open-ended gameplay was the star attraction, though, picking up where the debut game left off, albeit on a much more powerful system. While it did contain bugs and suffered from poor frame rates on the A500, the game's colourful polygon graphics and engaging space battles brought great depth of play. Gamers could be who they wanted to be and do whatever they fancied doing in a game that had the potential to engross for months on end.

Lemmings

DEVELOPER: DMA DESIGN
YEAR: 1991 **GENRE:** PUZZLE



5 **While the Amiga** was blessed with many puzzle games, few came close to matching the mix of brainpower and reflexes needed to guide everyone's favourite tiny humanoid creatures to safety. The tight nature of *Lemmings*' design ensured gamers could use ingenuity and cunning to chart their own path through the levels. At the same time, players needed to make decisions regarding the number of lemmings they could sacrifice for the greater good – not always easy when the critters were as cute and personable as these. Amazing sound effects, which included the infamous 'oh no!' as the lemmings exploded in a shower of pixels, cemented the game's popularity. Around 55,000 copies were sold on the first day.

Sensible World Of Soccer

DEVELOPER: SENSIBLE SOFTWARE
YEAR: 1994 **GENRE:** SPORTS

4 **Sensible Software's co-founder** Jon Hare has frequently bemoaned the glossy, TV-style presentation of modern football videogames. So in carrying the top-down view and tiny players of *Sensible Soccer* into the adored sequel *SWOS*, the developer showed itself to be unswayed by the emergence of the *FIFA* series of games. Instead, it took all that glittered with *Sensi* and turned it into gold, adding more teams and players, sprucing up the graphics and introducing a career mode that allowed players to manage a club of their choice.

Cannon Fodder

DEVELOPER: SENSIBLE SOFTWARE
YEAR: 1993 **GENRE:** ACTION

3 **There is no** doubting that *Cannon Fodder* was a violent, complex game that was big on presentation even though its main characters were rather small. But at the same time, *Cannon Fodder* showed a level of maturity and daring that many other games would not have dared try. With soldiers screaming in agony and a jaunty title song that told the world 'War! Never been so much fun' was evidence of a game developed with tongues firmly stuck inside cheeks. So when the Royal British Legion called the game "sick and desperate" before its release and stopped Sensible Software from using the poppy on the cover, it was entirely wrong. *Cannon Fodder* showed the futility of war and this was evident throughout its 23 magnificent missions.

The Secret Of Monkey Island

DEVELOPER: LUCASFILM GAMES
YEAR: 1990 **GENRE:** ACTION

2 **There is no** denying the impact *The Secret Of Monkey Island* had, not only on point-and-click adventure games but on gaming as a whole. It was the first point-and-clicker to have a full soundtrack and even the first to be turned into a live stage play (thanks to a performance in 2005) but it continued the tradition of *Maniac Mansion*, thanks to the success of the SCUMM scripting language that underpinned it. Players cared less for the mechanics, though, and instead lapped up the humorous dialogue, the graphics and the narrative. The sword duels were a battle of sharp wit rather than pointed metal and there were beautiful references to Lucasfilm adventures that preceded it. It all helped the game to win over a new, more mainstream audience and it is rather telling that only Lucasfilm Games adventures make the Amiga top 25. There is no room for Sierra's *Space Quest* nor *King's Quest*, it seems.

Speedball 2: Brutal Deluxe

■ **DEVELOPER:** BITMAP BROTHERS ■ **YEAR:** 1990 ■ **GENRE:** FUTURISTIC SPORTS

The Bitmap Brothers had a reputation for producing some of the Amiga's finest games and readers have pushed it into top position by deeming *Speedball 2: Brutal Deluxe* as the best title to have ever graced Commodore's 16-bit computer. As the name suggests, *Speedball 2* built upon the success of the *Speedball* (which was the London-based developer's second game) and it once again enthralled players with a fast-paced futuristic sports beat-'em-up.

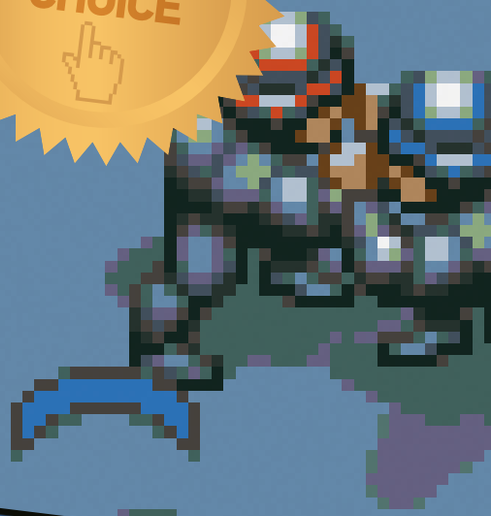
While most sports games of this kind would concentrate purely on scoring goals, *Speedball 2* instead asked players to amass the most points, which was a departure from the first game. Goal scoring achieved some of those points but so too did bashing any of the opposing nine players or collecting any randomly appearing icons. This made for a violent and frantic game, with players having just 90 seconds in each half to make their mark. It was hard to keep the ball for too long so it was usually a case of catch and throw, the ball able to be flung in eight directions in the hope of landing with a teammate.

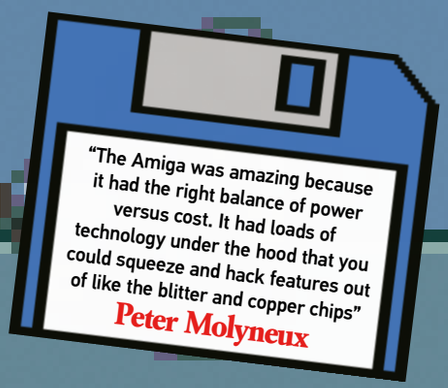
To make life a little harder, The Bitmap Brothers doubled the size of the playing area from the debut game. It also made it difficult for one team to truly run away with a game by introducing a score multiplier that would help a team falling behind to rapidly catch up and increase the tension yet again. Two-player games would benefit from two-legged matches. By collecting plenty of coins in the first leg, a team would gain an advantage in the second. Players would, therefore, give much thought to the best tactics to employ as the game went on. Smashing an opponent to pieces either through goals or brute force was not always the best way forward. Strategy ruled.

Speedball 2 really did have everything. The faster scrolling and management option (ensuring the team Brutal Deluxe was always on top form) were more than matched by enhanced sound which created a buzzing atmosphere and a sense of occasion. While the crowd was getting rowdy and taking up the offer of ice cream, the players would wince in pain and the commentator would lend an American sporting edge.

That was apt given the game was, in a sense, like a hyped up, harsher version of American Football, a sweat-'em-up as one pundit put it that had joysticks dripping and mouths drooling at the professional presentation and gorgeous graphics. You know a developer is on to something when you play a game that it supposedly set some years ahead of your current day yet it makes you yearn to travel in time to that point in the hope the sport has transcended into real life. Health and safety rules will most likely ensure that never happens but replaying this – or Tower Studios' smartphone/tablet version from 2011 – will always provide a current-day adrenaline rush.

retro GAMER READERS' CHOICE



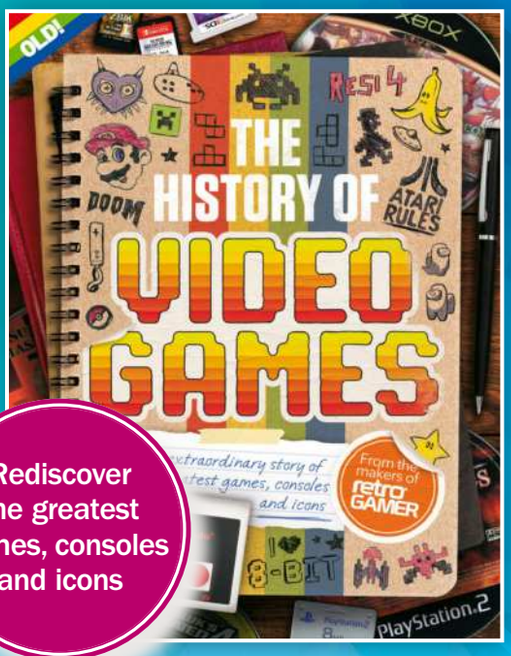


"The Amiga was amazing because it had the right balance of power versus cost. It had loads of technology under the hood that you could squeeze and hack features out of like the blitter and copper chips"

Peter Molyneux

5 reasons why it's great

- The game's mechanics – bouncing the ball off walls, nine players per team – produced depth.
- The music was incredible thanks to the genius of Nation 12 that boasted former Ultravox singer John Foxx.
- Rules, what rules? In a game that is about scoring any way you can, there is no chance of the action letting up.
- It was violent. Sure, athletes bang on about fair play but there's a reason ice hockey is so popular.
- The game's smooth scrolling ensured players concentrated purely on the action.



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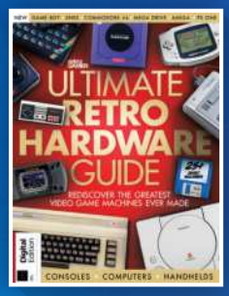

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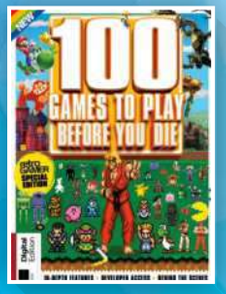

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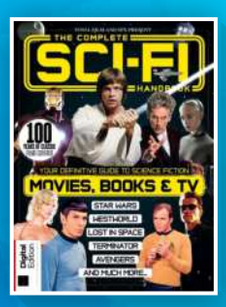

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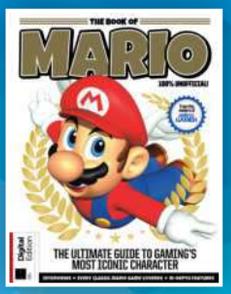

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